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KENTUCKY
MEDICAL JOURNAL

PUBLISHED MONTHLY

BY THE

KENTUCKY STATE MEDICAL ASSOCIATION
INCORPORATED

EDITED BY

ARTHUR T. McCORMACK, M. D., A. B., DR. P. H.

UNDER THE SUPERVISION OF THE COUNCIL

VOLUME XXVIII

JANUARY TO DECEMBER, INCLUSIVE, 1930

LOUISVILLE, KENTUCKY
1930

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KENTUCKY MEDICAL JOURNAL

Being the Journal of the Kentucky State Medical Association
Published Monthly under Supervision of the Council
Editorial and Business Office, Corner State and Twelfth Streets. Subscription Price, $5.00 Single Copy, 50 cents
Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 8, 1917, authorized May 25, 1920.

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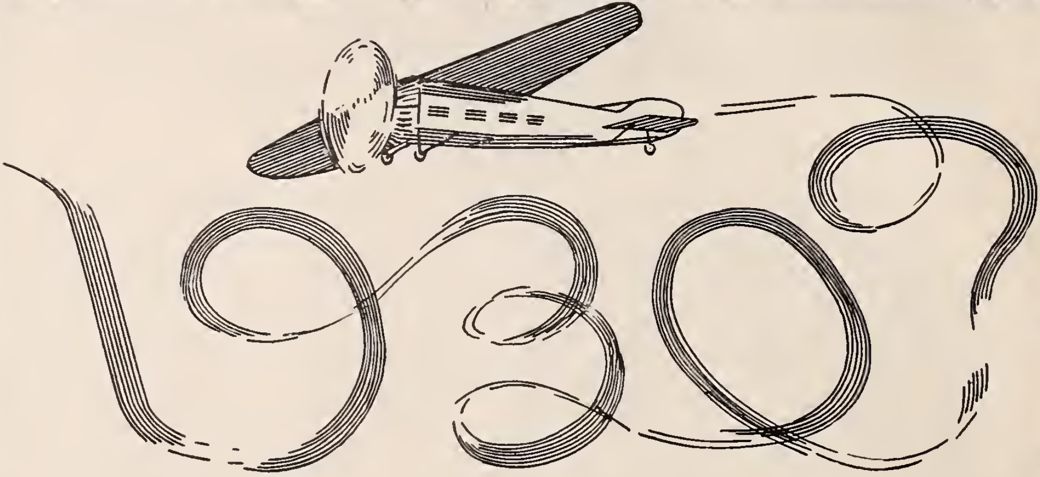

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BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. XXVIII. BOWLING GREEN, KY., JANUARY, 1930 No. 1

EDITORIAL

GREETINGS

This JOURNAL brings greetings and good wishes for 1930, not only from the officers of the Association to the members, but from each of its two thousand members and owners to one another.

Since 1851 the Kentucky State Medical Association has been building itself into a stronger and better organization for service to the people of the Commonwealth. It is gratifying to consider its accomplishments during this period. During the first half of its existence, practically one-third of the men offering themselves as doctors to the people of Kentucky, were either wholly uneducated in medicine or were blatant advertising quacks or both. The people had no standards by which to judge between the best and the worse. Many areas in the state had no physician and many others worse than none. The annual death rate was three times as high as at present and the infant death rate was appalling. Frequent epidemics of yellow fever and cholera ravaged the state and paralyzed business.

It would be a pleasant task to enumerate the accomplishments of the profession in these years. It has been charged by the people of the state, though the General Assembly, with the responsibility for their health and lives. With a full realization of this responsibility, it has accepted it and is moving forward slowly but surely in its task of reducing the ravages of unnecessary illness and of preserving good health—thereby keeping our citizens happier and more effective. Forty-five counties have developed and are maintaining full time health departments; fourteen others have full time public health nurses. In every county there is an increasing sense of public health responsibility and the profession and people are determined to relentlessly pursue the conquest of unnecessary disease.

There are certain causes of disease that should be removed from our registration list during 1930. To this end we urge our members to systematically call into their offices every pre-school child within their jurisdiction and administer toxin-antitoxin for the prevention of diphtheria; and, because we know that 15% of those so treated will fail to develop complete immunity, those who have been immunized more than two years, should be recalled and Schick tested and the treatment should be repeated, if it shows they are still susceptible to the disease. Every pre-school child should be vaccinated against smallpox by his family physician. At the time of birth the father and mother should be told that the child should be immunized against diphtheria and vaccinated for smallpox when it is 9 months old. Beginning with the sixth year, inoculation for typhoid fever should be begun and it should be repeated biennially during school life.

In every school district in Kentucky, physicians should insist on the organization of Parent-Teacher Associations because this great organization is doing the most towards concentrating public attention on a good health program.

Tuberculosis still presents a major problem, although its ravages have been reduced 65% in 19 years. Physicians, everywhere, should support a local demand for co-operation with the State Live Stock Sanitary Board in the testing and eradication of tuberculous cows, not only in dairy herds but in those supplying milk for country and surburban homes. The reduction in our tuberculosis rate has been largely due to the better health care of our infants and children. Much remains to be done in this respect. The tuberculosis death rate of future years is being largely determined this year by the number of infants and pre-school children who are permitted to come into open contact with cases of tuberculosis. We hope definite plans may be developed, through co-operation with the State Tuberculosis Association, for the detection of children infected with this protean disease and for their care.

Inspired by the accomplishments of our predecessors in medicine, made confident by the approval of the fine public opinion of the people of this state, sobered by a sense of the tremendous responsibility which has been placed upon our shoulders, the medical profession of Kentucky welcomes the new year with its abundant opportunity for better finer and more unselfish service, forgetful of ourselves, and, realizing thoroughly our opportunities, we propose to make this a banner year for good health in Kentucky and we each may confidently expect to be happier and more successful than we have been before for these reasons.

Per. Exch

TULAREMIA

With the arrival of the hunting season for rabbits, Tularemia has again made its appearance, and this time in a seemingly more virulent form, for already two deaths have been reported.

Tularemia, so named because it was first discovered in Tulare County, California, among the ground squirrels, is caused by a germ, Bacterium Tularense. It is primarily a disease of wild rabbits and other rodents, but persons can readily become infected when handling, cleaning or dressing these animals. Hunters, market men, cooks, and housewives are thus particularly liable to contract the disease, and it is not necessary to have a cut or abrasion for the organisms to enter the circulation. The most likely explanation of this infection is that the organisms require the amino-acid, cystine in medium for its artificial cultivation, and it seems probable that the skin, with its high cystine content, supplies suitable conditions for growth of the organism.

In most cases an ulcerating sore develops at the point of infection, which is most often on the hand; the lymph glands, which drain the infected region, become enlarged and tender. Thus if the infection is on the hand the glands of the axilla become enlarged.

One type of the disease resembles typhoid fever. In these cases the fever may be of an irregular type, and there may be no skin sore or enlarged lymph glands. In cases of eye infection there is marked conjunctivitis with tenderness and enlargement of the glands in the neighborhood of the ears and neck.

The onset may be sudden, often occuring while the patient is at work, characterized by headaches, vomiting, chills, aching pains, sweating, prostration, and fever.

In the glandular cases there is pain in the area of the lymph glands, which drain the site of infection, the glands become enlarged and tender and may break down, liberating a necrotic core leaving an ulcer. Weakness, loss of weight, chills, sweats, and prostration, which often lasts for two or more weeks, are common symptoms.

Some do not entirely recover for sir months or a year. Recovery finally occurs.

Errors in diagnosis occur in cases which simulate typhoid fever, influenza, septic infection and glanders. In a person who has dressed and prepared rabbits, as in the case of a market man or house servant, and who develops inflamed glands of the cervical, epitrochlear or axillary regions, accompanied by fever and marked illness, Tularemia should be borne in mind. These cases usually develop in November, December and January when rabbits become an article of food.

The final diagnosis is confirmed or made by the laboratory. A specimen of blood is secured, during the second week of illness, in the same manner as for a Wassermann. Bear in mind that this is an agglutination test and the reaction is not present until the second week of the disease, as the agglutinins do not appear in the blood until this time. The agglutinins are completely absent during the first week of the disease; therefore it is useless to collect the blood until after the second week; during the third week the agglutinin titre reaches its maximum, 1-1280, or 1-2500; after the eighth week it undergoes a general decline until the end of the first year—then it averages about 1-160. This reaction continues after ten, fifteen or twenty years. Two to three centimeters of blood is necessary for laboratory diagnosis for dried blood specimens have not proven satisfactory.

There is no specific treatment; no vaccine or serum has been found efficacious. The disease might be arrested in the early stage by use of immune human serum, particularly if it is taken from individuals who have agglutinins in a high titre. The intravenous use of mercurochrome and arsphenamine have had no effect upon the disease. It is unwise to incise the primary lesion and the enlarged regional lymph nodes should not be drained unless pus is present. The best that can be done is to make these patients comfortable by prolonged rest in bed and symptomatic treatment.

When skinning or dressing wild rabbits, coarse rubber gloves that can be purchased at the Ten Cent Stores should be used.

Rabbit meat thoroughly cooked is harmless, because cooking kills the bacteria.

A NEW BACTERIOLOGY

In this issue of the Journal in the Book Review columns is a description of Park, Williams, and Krumwiede's ninth edition of Pathogenic Microorganisms, and represents a consummation of many years of experience and pioneer work in the field of bacteriology. Every physician who does diphtheria work should be deeply grateful to Dr. Park, for, through his indefatigable labors he has given to this subject, he has been able to give a technic for its prevention that is workable. While no busy practitioner can accurately perform the various laboratory procedures for the detection of pathogenic bacteria, yet they should know how to evaluate the laboratory reports and should be familiar with behavior of the various disease producting germs. Many new subjects have been introduced, as Tularemia, Undulant Fever, and Bacteriophage. We recommend this volume to our readers.

EPIDEMICS

Under the Volstead Act physicians holding Federal permits are given as many as one hundred prescription blanks authorizing them to prescribe whisky each quarter. It is of interest that there are only about forty permitees in Kentucky who use all of their blanks.

The Federal Prohibition Enforcement Officers are authorized by regulation to issue an additional prescription book in case of an actual epidemic where it is officially declared that whisky is necessary. After a conference with Messrs. Rowe, Acting Federal Enforcement Officer, and Captain Taylor, In Charge of Permits, orders were issued that hereafter such additional prescription books will be issued only when morbidity report cards from a given health jurisdiction shall show that there is a definite epidemic, and the County Board of Health at a meeting shall certify to the State Board of Health that there is an epidemic and that additional whisky prescriptions are necessary, and the State Board of Health shall approve the existence of an epidemic and necessity for such issuance.

The Federal Prohibition Enforcement Officers in Kentucky have co-operated with the medical profession in the State in its determination, as expressed repeatedly by unanimous votes of the House of Delegates to uphold the Federal Prohibition Law and other Federal and State laws affecting the practice of medicine. Stringent regulations are made necessary by the fact that a very small number of physicians violate the law. These must be weeded out as their actions are a reflection on the entire profession. Reputable physicians have nothing to fear from the enforcement of this or any other law. Others, however, shall take warning that these laws are being enforced with increasing stringency, and that it is only a question of time when violations will be detected and punished.

The Kentucky State Medical Association has nothing to do with the enactment of these laws, but when they are enacted it has indicated that it proposes to support their enforcement as it does of law generally.

Treatment of Ulcers of Leg with Magnesium Sulphate—Young reports that the use of magnesium sulphate solutions in the treatment of ulcers of the leg has resulted in healing in more than 80 per cent of cases. The patients were all confined to bed with the foot of the bed elevated. Soaks of a 5 to 10 per cent solution of magnesium sulphate were applied and the dressing was renewed thrice daily. A considerable number of similar and varicose ulcers were treated in the same fashion with excellent results.

SCIENTIFIC EDITORIALS

GASTRIC ULCER

Owing to the great variety of symptoms presented by gastric ulcers, these cases are often overlooked. As we know, the majority of gastro-intestinal ailments are more or less functional in character, developing in individuals as a secondary manifestation of some organic disease, or occurring in those who are nervously deranged from one cause or another. It is a good rule, when any case showing disturbances pointing to the stomach does not respond to such treatment as would be indicated in the presumable condition, to make a complete study of the gastro-intestinal tract, by the x-ray, stomach contents, stools, etc., for the purpose of determining whether or not there is an existent ulcer, or some secondary abdominal condition producing the symptoms.

In many cases, the symptoms of ulcer are quite typical, such as hemorrhage, the characteristic hunger pain, etc. Where these symptoms are present then the methods of precision are confirmatory. However, a large group present symptoms more or less obscure, and in many cases a careful study will disclose the presence of ulcer. Ulcers, of course, vary in their location, being more frequent in the duodenum, their number, and their morphology. They are more frequently however, found in women and in people of the asthetic type, who have been subjected to excessive wear and tear of life which has forced them beyond their endurance.

After the diagnosis is made the question of treatment is of course of especial importance. There are two schools, each claiming better results from its individual management: the school of surgery, and the school of medicine. It would seem more reasonable, from the standpoint of an internist, that unless the case is complicated by definite pyloric stenosis, hour-glass contraction, frequently recurring hemorrhages, gall bladder or pancreatic disease, or disturbing adhesions, then it is better to give it the benefit of a thorough and systematic regime, rather than to subject it to the dangers of operative procedures, especially in view of the fact that not all operations are successful. If, after a reasonable time, the medical treatment does not prove successful, then an operation is naturally necessary.

In carrying out such a medical treatment some cases may be managed by limiting their exercise, regulating their diet and controlling the acidity, but others require a complete rest treatment, the best of which has been outlined by Sippy. They must be kept in bed at first, given only milk and cream every hour for the first few days, and then the diet gradually increased according to the Sippy method, until at the end of four weeks they are eating three meals a day. At this time however, the meals should be limited to small ones and the milk and cream continued according to the manner that Sippy has found to be most satisfactory. During this time it is necessary to control the acidity by means of alkaline powders.

The vast majority of cases that undergo this routine will be relieved of their symptoms very quickly, but this does not mean that the ulcer has healed. The mistake that is made is that these patients are permitted to return to their regular way of living in too short a time. The treatment should be carried out very carefully for at least a year's time in order that permanent results may be secured, and even long afterwards, the patient cannot, with safety, undergo excesses in eating or other forms of living. The predisposing cause of ulcer is likely to remain and even after the first ulcer is cured and the same cause exists, in the future there is no reason why another ulcer should not develop. This is one reason that surgical treatment does not always cure. It is of course, needless to say that in the management of all these cases that infections about the mouth, nasal passages and sinuses should be corrected.

R. HAYS DAVIS.

Electrocardiogram in Acute Infections—Clough Turrill Burnett and George F. Piltz, Denver, (Journal A. M. A., Oct. 12, 1929), present a series of 100 patients who, following some acute infection, were especially studied with reference to possible heart injury. None of these had shown any signs of symptoms of heart diseases prior to the recent infection. No cases of scarlet fever, diphtheria or frank rheumatism were included and none of these patients gave a history of rheumatic fever; twenty-eight of these furnished significant changes in the electrocardiogram. In twenty of these, symptoms and other signs of heart disease were lacking or confusing, and in only three of the twenty-eight were either heart signs of symptoms sufficient to indicate heart injury. Pathologic and clinical evidence support the view that in the course of many types of acute infection the heart tissues are injured. Clinical recognition of this injury is often difficult or impossible. The electrocardiogram offers a means of diagnosis in a sufficiently large proportion of these cases to render its more general employment worth while.

QUININE SUCCESSFULLY USED IN A MULTITUDE OF CONDITIONS BY THE PHYSICIAN OF YESTERDAY AN ALL BUT FORGOTTON DRUG TODAY*

By LEON L. SOLOMON, Louisville.

Among the important drugs which our predecessors daily employed in a large number of ailments—a drug rarely disappointing in its action—CINCHONA is chosen for a brief review in this, the first of a series of contributions to

"The Materia Medica of Twenty-five and Fifty Years Ago." The tincture of cinchona or the compound tincture or someone of the alkaloids of the drug or the salts of the alkaloids was a part of the routine treatment—sometimes it was all of the treatment—of the condition, which the practitioner, who preceded us, was called upon to manage.

Wherein lay its virtues? What was cinchona expected to do? He who knows quinine only as inimical to the plasmodium malariae may well ponder over other effects and other uses, to which the drug may today be put, with the same assurance of benefit as it exerts in its destructive influence on the Organism of Laveran. Besides its antiperiodic power, making the action of quinine practically a specific in the control of quotidian, tertian, quartan and mixed varieties of malaria, cinchona preparations possess properties unique in other respects, which the physician of earlier days well understood. Among these:

(1) Low Types of Inflammation with General Debility: Because it promotes constructive metamorphosis, quinine is useful in all low types of inflammation, classed by the old authorities as adynamias.

(2) Tonic Properties: As a tonic, in general debility, it was considered one of the most dependable restoratives.

(3) Stomachic, Antiseptic, Antifermentative, Astringent: Cinchona, alone or combined with other bitters—gentian, quassia, colombo—is a very superior stomachic, improving appetite, aiding digestion; especially is this true in the so-called atonic dyspepsias, where the tongue is coated, breath fetid, appetite fickle and bowel condition varying between loose and constipated stool. In such conditions, besides a stomachic effect, the drug exerts an influence properly described as antiseptic and antifermentative.

As a destroyer of sarcinae, cinchona preparations exert a most positive action; except for excessive bitterness, quinine would enjoy a wide use as spray to the mouth and throat.

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*The first of a Series of Papers, Proposed by the Editor to Revive Interest in the Materia Medica.

(4) Gastro-Enterocolitis: Time and again in the gastro-enterocolitis attacks of infancy and in young children, quinine, in small dose has proven my most efficient remedy. In these cases, besides the bitter stomachic and tonic effect, cinchona preparations exert a beneficial astringent influence on the intestinal and colonic mucosa, because of the two contained tannic acids.

(5) Body Resistance Against Acute Inflammatory Conditions and Septic Processes: Bearing in mind that by body resistance, infection is controlled, our predecessors sought to stimulate all of the defense mechanism and forces, and believed that this could best be accomplished through the instrumentality of quinine. No drug was more frequently prescribed in septicemia and pyemia by the medical man of twenty-five to fifty years ago than quinine. In puerperal sepsis, a double effect was obtained—first, the arresting of the production of white blood cells and a lessening of their migratory power and second, a stimulation of contraction of the muscle fiber of the uterus, whereby the contents of the canal were better expelled and the infection in the lymphatic streams and in the blood channels more positively expressed.

(6) Aborting Acute Ailments: When the pulse was rapid and the temperature was high, so positive was the action of quinine in arresting inflammation, through its control on leucocyte production and through its lessening of the migration of these cells, that our forefathers rightfully claimed for it an ''abortive effect'' in acute tonsillitis and in other acute manifestations.

(7) Pneumonia, Pleurisy, Endocarditis, Pericarditis, Erysipelas: The virtue of this same action was sought, when quinine was administered in fibrinous pneumonia and in pleurisy, also in acute endocarditis and pericarditis. Large doses were preferred in these conditions—up to twenty and forty grains. In the writer's hands, five to twenty grains, every three or four hours, has exerted a most salutary effect in erysipelas.

Our forefathers reached conclusions based on clinical experience—often these conclusions were wholly empirical. Modern day medicine seeks to prove its findings on a scientific basis, unavailable to the physician of twenty-five and fifty years ago. The bactericidal property of quinine, investigated in 1918-19, during and after the world epidemic of influenza, by Garin, in England (Prog.-M., 1918, 33:365) and by Cohen, Kolmer, Heist, Sterling and others in this country (Pa. M. J., 1919, 506), (Pa. M. J., Sept. 1920), proved conclusively that the blood of patients, taking large doses acquires pneumococcicidal properties. Sixty-one per cent of hospitals, answering a questionnaire from Garin, reported that none of their malarial patients (receiving large doses of quinine) developed influenza, while twenty per cent reported the disease ran a mild course among the malarial patients. In reports of three thousand cases of malaria, collected by Sterling from European hospitals, there were only seventeen individuals, who developed pneumonia, invariably of a mild type, whereas a large majority of the hospital inmates (not taking quinine) suffered a severe form of the disease.

(8) Bad Colds, Acute Catarrhs, Coryzas: In catarrhal conditions of the upper respiratory passages, the usefulness of quinine is pronounced; a full dose, given before retiring, will often wholly abort the attack.

(9) Catheterization—Passage of a Sound: Before such procedure, a full dose of quinine, with or without a full dose of bromide (the latter as antispasmodic) as a rule will prevent the chill and the consequent fever, so often observed, where quinine is omitted.

(10) Effect on the Heart—Small versus Large Dose: Small doses of quinine materially increase heart's action and add to mental activity. Large doses cause the heart to pound and bring about an unpleasant sense of fullness in the head, with ringing and buzzing in the ears. These unpleasant manifestations, together with nervousness and tremor, may be avoided—at least minimized—by the conjoint administration of one of the bromides (sodium, potassium or strontium salt).

(11) Quinine in Labor: The positive action of quinine in restoring general body tone and in restoring the quality of uterine contraction was taken advantage of by our predecessors, who were in the habit of administering five grain doses of the drug to the patient, whose dilatation was advanced but who was exhausted from prolonged labor. Rarely was it necessary to repeat such dose; within fifteen to thirty minutes after its administration, the baby had arrived.

Administration

On account of bitterness, quinine is best administered in cachet, capsule, pill or tablet. In order that the gastric juice may dissolve the powder, it were well to puncture the capsule. It must be remembered that the alkaloids of cinchona are precipitated by the alkaline intestinal juices, while diffusion in the blood stream rapidly occurs from the stomach.

Disguising of the Bitterness of Quinine: For this purpose, either cocoa (chocolate) or the aromaic elixir of licorice may be employed. If a thick syrup of chocolate is used, the disguising of the bitterness is complete and permanent. Where the aromatic elixir of licorice is used, the bitterness is almost as completely overcome, provided the mixture is each time prepared fresh—just before the dose of quinine is swallowed.

Formulae:

Rx—Quininal Sulphatis	Scruples iii

Ft. in Cht. No. XX

Sig: Dissolve the quinine powder in two (2) teaspoonfuls of the licorice prescription.

Rx—Elix. Glycyrrhizae Arom.	Oz. Vi

Sig: Dissolve quinine powder in two (2) teaspoonfuls, swallowing immediately the mixture is effected.

Note: Because the bromides serve to control nervousness, tremor and ringing in the ears, it was not uncommon to see the following prescription:

Rx—Natrii Bromidi	Drams iss
Elix. Glycyrrhizae Aromat.	Oz. Viii

M Sig: Dessertspoonful, to be administered with each three (3) grain dose of quinine.

The first prescription in febrile attacks:—

Rx—Quin. Sulphatis	Grs. LXXii
Phenacetin	Grs. XXXVi
Ext. Belladon.	Grs. iV
Res. Podophyllin	Grs.ii
Phenolphthalein	Grs. Viii

M Ft. in cachet No. XXiV

Sig: One (1) every hour for three (3) doses, then one (1) every two (2) or three (3) hours.

To promote appetite:

Rx—Tr. Gentian	Drams iV
Tr. Quassia	Drams iV
Tr. Capsici	Gtt. XXiV
Tr. Cinchona Comp., qs ad	Oz. iii

M Sig: Teaspoonful, in a wineglass of water, half hour before meals.

Erysipelas: Reference has heretofore been made to the employment of quinine in this ailment. It was common for the old practitioner to use the tincture of the chloride of iron, in conjunction with quinine for his erysipelas patient. The modus operandi of this combination, while not well understood, was said by some to depend upon the production of ethers, when the two drugs were simultaneously administered, as follows:

Rx—Quin. Sulph.	Drams ii

Ft. in Caps. (vel cachet) No. XXIV.

Sig: One (1) every hour for three (3) doses, then one (1) every two (2) or three (3) hours; swallow with ten (10) drops of the Iron prescription, well diluted.

Rx—Tr. Ferri Chlor.	Oz i

Sig: Ten (10) drops in water, through glass tube, every hour for three (3) doses, then every two (2) or three (3) hours; to be taken conjointly with quinine prescription.

Lilly's Coco-Quinine, representing, as I recall, two grains to each dram, was a popular remedy for children, as well as adults.

Rx—Coco-Quinine (Lilly)	Oz iii
Antipyrin	Grs. XXXVi
Natrii Bromidi	Drams i
Syr. Simplicis, qs ad	Oz Vi

M Sig: Two (2) teaspoonfuls, every three (3) or four (4) hours, followed by a glass of water.

ORIGINAL ARTICLES

HYPERTHYROIDISM IN CHILDREN*

By Hoy Newman, M. D. Bowling Green.

In taking up a discussion of hyperthyroidism in childhood it is well to point out in the beginning that the literature is not flooded with case reports and the few references to be had are principally from goiter clinics. In a period of five years at the Mayo Clinic thirty cases were seen out of a total of 3,432 cases of all ages. Sattler, a few years ago, reported a group of 3,477 cases of exophthalmic goiter, of which 5.3% were in children. In the age period from 1 to 5 years, there were four cases in boys and seven in girls, from 5 to 10 there were eleven in boys and thirty-three in girls, and from 10 to 15 years, thirty-four in boys and one hundred four in girls.

In 1922, Buford made a careful survey of the literature, both American and foreign, for the past twenty years and found only 18 cases reported in children under 12 years of age and in that number only two in which operation had been performed. A total of eight cases of hyperthyroidism in children under 5 years of age had been reported up to 1922. One case of congenital exopathalmic goiter and one case of 9 months of age were reported. Helmholz of the Mayo Clinic, however, reports 24 cases which received surgical treatment with a mortality of 8.4%. It has been estimated by Barrett, a Frenchman, that the ratio of children to adults is 1:50. Helmholz's report shows 1:114 and the other meager statistics vary according to the extent of observation reported. It is sufficient to say that the disease occurs often enough to make it worth while for us to bear it in mind.

Classification

The most commonly accepted classification of goiter is perhaps something like this:

I. Colloid goiters
II. Adenomas without toxic symptoms
III. Adenomas with toxic symptoms.
IV. Grave's Disease (exophthalmic goiter)

According to Helmholz hyperfunctioning adenomas do not occur in children, therefore only one type of hyperthyroidism is found, namely the exophthalmic goiter. But it should be still further borne in mind that exophthalmic goiter may obtain without exophthalmos, the latter being only one of a number of symptoms of the disorder. Plummer insists on a sharp division between the true Basedow's disease and toxic adenomas. This division is a pathological one, the former being characterized by a proliferation of the epithelium of the original acini, while the latter is due to a proliferation of the acini developing in the interstitial cells. Hertzler declares that in children there is often an association of the two. Be that as it may hyperthyroidism may occur in children as a result of hyperthrophy and hyperplasia of the thyroid and after large doses of dessicated thyroid and thyroxin. We now leave the pathological dispute open to those who wish to take it up further and pass to other topics.

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*Read before the Third District Medical Society at Glasgow.

CAUSATION

Perhaps the most difficult problem in the study of thyrotoxicosis is what causes it. Kocher was positive that certain individuals were predisposed to this syndrome. He was certain that the disease could be produced at will in those individuals not only by feeding thyroid extract but by iodin as well. The predisposed, according to his idea, fell into two groups—those who have an inherent predisposition and those who are predisposed because of some temporary, unusual demand upon the organism as in pregnancy, puberty, the menopause, and acute infections. Others have stressed the neuropathic type of individual and in such it becomes largely a matter of circumstantial accident whether or not the disease develops. Kessel adheres strongly to the theory of autonomic imbalance and is sure he has observed transitions from imbalance to the complete syndrome of hyperthyroidism. This idea harmonizes with the frequent observation that worry or mental shock often dates the advent of symptoms.

No one could doubt the factor of inherent [illegible]al ability to withstand certain diseases or the inroads of fatigue, physical strain, mental effort and emotional stress. Certain men "carry their liquor" better than others, as you gentlemen well know, and certain individuals bear doses of drugs far better than others. Then the question naturally arises as to what is normal endurance and like the question as to what is normal intelligence, no one knows exactly. He has his own standard and according to that all others are strong or weak.

SYMPTOMS

According to Plummer the symptoms of exophthalmic goiter can be divided into those that are caused by an excessive production of thyroxin, the normal product of the gland, and those that are in all probablity caused by the secretion of an abnormal product of the thyroid gland. Thyroxin raises the basal metabolic rate with resulting secondary manifestations, higher pulse rate, nervous fatigue, increased temperature, polyphagia, etc. The abnormal product is possibly an incomplete iodized thyroxin molecule. This product gives rise to the ocular and nervous changes.

Exophthalmos is variable; possibly not over fifty per cent of the cases of thyrotoxicosis have this symptom. There is, however, often a peculiar glassy stare. This fact should be borne in mind, since so many think there can be no exophthalmic goiter without the typical bulging eyes. Its presence in exophthalmic goiter and its absence in cases of hyperfunctioning adenoma would lead one to relate it to dysfunction rather than hyperfunction of the thyroid. Its rapid disappearance under the administration of iodin shows its relation to the abnormal thyroid product, as shown by Plummer. In the series of cases reported by Helmholz 25 out of the 30 had a definite exophthalmos; the other five had the characteristic stare. However, most of these cases had had symptoms from one year to eight years.

Restlessness stands next perhaps in the list of symptoms in childhood thyrotoxicosis, and is probably more constant. The child is nervous, fidgety, cannot sit still. There is often the same urge toward movement as in Chorea, but in this disease the movements are purposeful and co-ordinated. There is apparently no comfortable position, there is never repose. Only a mentally defective child can equal the restlessness of this class of patients.

Crises: This symptom in my opinion deserves a prominent place in diagnosis. These are marked by prostration, vomiting, diarrhoea, convulsions, high fever, and are most often diagnosed and treated as digestive upsets with never a thought of hyperthyroid crisis. I have one such case who has run the gamut of childhood afflictions with calomel periodically, "worms," "bile on the liver," "improperly digesting food," and all the other foolish diagnoses we cover up with at times, but who, nevertheless, has a basal metabolic rate of 100%, pulse 120, markedly under weight and all the constant ever present nervous phenomena.

Tachycardia is always noted. In a general way this symptom is proportional to the elevation of the metabolism. Other factors may influence the heart rate, just as they may influence the metabolic rate, but it is usually persistent in bed and while asleep. The pulse rate is usually from 100 to 150.

Enlargement of the thyroid gland may or may not be made out. If it is, the gland is smooth and of moderate size.

The basal metabolic rate is always markedly elevated from 15% to 100%. If remissions occur the rate naturally drops according to the amount of thyroxin secreted. To speak of hyperthyroidism when one has a normal metabolic rate is as wrong as to refer to a patient as feverish when the temperature is normal. There are only a few diseases which elevate the metabolic rate to a significant degree. Of course fever will, but fever excludes basal conditions. The chief disorders are leukemias and pituitary disorders which can be eliminated.

Other symptoms could be enumerated but it is hardly worth while. The diagnosis is made in childhood by (1) symptoms indicating an increase in metabolism, such as tachycardia, excessive perspiration and loss of weight in spite of adequate food (2) toxic symptoms such as nervousness, fatigue, exophthalmos and gastrointestinal crises, (3) enlargement of the thyroid and local bruit (4) increased metabolic rate (5) the reduction of the rate and rapid disappearance of toxic symptoms after administration of large doses of iodin. This last, however, I am not advocating because it is fraught with so much danger. It should not be resorted to unless one is prepared to do a thyroidectomy.

Other less important symptoms that are worthy of attention are tremor, weakness in the quadriceps muscles, dyspnoea, hyperhydrosis and emotional instability. There are numerous other signs which are familiar to all and are hardly worth mentioning in a paper of this kind.

In closing this paper I want to suggest that hyperthyroidism in children is not uncommon right here in Kentucky. We have accustomed ourselves to look for it in other regions and in older people—"A suspicion must always precede a diagnosis"—some one has aptly said. We are not liable to see hyperfunctioning thyroids in children unless we look for them. I have four children, one boy and three girls, under treatment, who have come to me in the past few months. Their pulse rates, clinical pictures, basal metabolic rates, etc. are typical of this disorder. Their ages run from six to eleven. One of these patients a little girl 11 years old, with all the toxic symptoms, gained 8 pounds in weight within the first ten days after putting her to bed with increased diet and medication. Another a little girl of seven years, was dismissed from school by her teachers because of inattention—on examination she was found very nervous, pulse 110, 5 pounds underweight, temperature 99 1-2 and a basal metabolic rate of 83%. Another case, a boy, age 7, was withheld from school because of his nervousness and restlessness and he had increased temperature, pulse rate and basal metabolic rate of 54%. It is well to note that metabolic tests in children are not always to be taken on face value at the first test because of the nervous element which enters into the test, especially if you are not well acquainted with the patient and unless you have his confidence to start with. What is true in my experience must be true in all our experiences as general practitioners. To me it is extremely interesting and fascinating—this very serious and important syndrome.

Nothing has been said of treatment because any standard authority will outline readily what should be done and in these cases it is necessary to meet the conditions in a common sense way and as necessity requires. Frequent metabolic tests are advisable in order to keep a check on the condition. It is perhaps best to put the patient to bed with sedatives preferably luminal given two or three times a day with a high caloric. If the patient is very toxic, it is wise to use the ice bag over the throat and precordia until the pulse rate drops. Iodine therapy in children as has been indicated before, should be approached with caution.

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Desirability of Clinicophysiologic Study of Chronic Rheumatism.—Van Breemen, secretary to the International League Against Rheumatism thinks that whereas the pathologic anatomy of rheumatism has been thoroughly studied, especially in the German literature, the clinicophysiologic studies have not been so complete. Therefore, and to simplify the international discussion of rheumatism, the league deems it advisable to submit a plan for the uniform clinicophysiologic study of rheumatism in its four principal pathogenic factors: (1) focal infection; (2) rheumatic constitution, hereditary or acquired from sedentary life and overfeeding; (3) disturbances of the cutaneous circulation, and (4) external factors, social or atmospheric.

CARE OF THE EPILEPTIC BY THE FAMILY DOCTOR*

By Frank M. Stites, M. D., Hopkinsville

It is estimated that about one in every three hundred of our population in the United States is a victim of epilepsy in some form.

Hardly a tithe of this vast number of tragic sufferers is receiving institutional treatment, most of these being confined in our state hospitals for the insane, and it would be hard to imagine a more unsuitable place for an epileptic than a hospital for insane patients. And this is not intended as a reflection on the management of our state hospitals for I am sure they are doing the best they can under all the circumstances. But of all people, epileptics are sensitive to their surroundings and one of the chief things to be avoided is the development of a so-called *inferiority complex*, and to be classed with the insane must have a most depressing effect on such a personality.

So it becomes easily apparent that the family doctor should continue to care for all who are now outside suitable institutions and should encourage the family and friends to keep such patients at home who are not able to enter a private sanitorium or cannot be cared for in a state colony equipped for the treatment of this malady.

In view of these facts, it is manifest that those of us who are now called on to treat this large class of persons should do all that we possibly can to equip ourselves to cure every case possible of cure and ameliorate the surroundings and control the seizures as far as we are able in all others.

I think most of us will have to confess that in the past we have not done our best in this regard. There has been the idea that very little can be done for the patient where the epileptic habit has become firmly fixed. But this is only partly true. Spratling said many years ago only about five per cent of all epileptics were cured, but he modified that by adding, almost no epileptic should be pronounced incurable at any stage of the disease. It is hard to reconcile these two apparently conflicting statements. He meant to convey the idea that, surprising as it may seem, there is always the possibility a patient may yield to treatment and it is not unlikely for the seizures to be arrested temporarily or even permanently with no treatment at all. We should therefore be guarded in assuming that any case is hopeless except in those of long standing among the feeble-minded where terminal dementia has already begun.

Along the same line but of recent date: I quote Dr. H. L. Parker of the Mayo Clinic, (Med. Cl. N. A. May '28, p 1583): He says, "The epileptic is affected by a disease, the knowledge of which goes back into the mists of antiquity. Unfortunately our knowledge covers the phenomena that can be observed, the deeper significance of the disease, its cause and cure, all being relatively unknown. It is an unsatisfactory disease for the modern physicians to treat. He can give no assurance of its future, can only apply palliative measures, and can give no adequate explanation of its appearance."

Much as the practitioner might like to shift the responsibility of these cases on to the neurologist or the institution where trained specialists could handle them, we will for a time at least have to accept our burden and do our best.

Our ideal for the future management of this syndrome, for if not a pathological entity, should be:

(1) First of all, an early diagnosis. Perhaps 12% are curable if seen and treated in the first year; after that the prospect of cure rapidly diminishes to 1½% in the old cases. I think it is correct to use the phrase, pre-epileptic stage, in making the diagnosis, for there is very often a pre-convulsive stage, especially in children, such as tantrums of temper without excuse in a child who has not been known to have a bad temper habitually, unexplained bed-wetting, night terrors and such like.

(2) Where the patient or family can afford it there is no question about the importance of sending epileptics to private sanitoriums, specially equipped for treating this disease, or to a well managed state colony or farm. As instruction in a modern sanitorium for tuberculosis is of immense benefit in training tuberculous patients, so is the routine of life taught in an institution devoted to the care of epileptics. Kentucky should have a farm or colony equipped to care for our epileptic patients now in the hospitals for the insane, and large enough to care for some of the thousands now suffering from lack of any kind of care.

(3) In the third place, we must consider that large class of patients in our homes over the state either unable or unwilling to go to any kind of institution. The ones the family doctor must treat, if they get any treatment at all. This is the class which furnishes quacks, faith healers, proprietary medicine and nostrum vendors their nefarious profits.

The family physician naturally is the first to see all classes of epileptics, and should be the one to decide where the patient goes, if it is possible for him to have institutional treatment, or if not, he must assume the heavy responsibility of caring for the sufferer himself. He should also be the last one to consent to confinement of an epileptic in an insane hospital, unless there are either homicidal or suicidal tendencies. Because we know that those suffering from epilepsy often develop delusions of persecution, is no excuse for us to aid in the inhumanity of pronouncing such a one insane and confining him in a state hospital intended for really insane persons, for the reasons that it is not best for our patient, and it takes up the room of those for whom the institution was prepared.

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*Read before the Third District Medical Society at Glasgow.

When a physician undertakes the care of epileptics in the home, he should have at least a general knowledge of this disease, and a real interest in its treatment. A confessed ignorance or indifference requires that the patient be referred to some other physician, for there is no hope of success without a deep and abiding interest on the part of the doctor, and careful study of every available source of information.

As briefly as possible, I will outline some of the outstanding features of the disease and give a short summary of its care in the home.

No definite and fixed pathology is uniformly found in epileptics, but most epileptics show numerous pathological conditions not only in the brain, but in other important organs. No patient requires a more careful examination, both clinical and laboratory, than the epileptic, with the view of removing every abnormal condition found.

The four classifications into grand mal, petit mal, focal and psychic, or the psychic equivalent, are sufficient for practical purposes and though differing widely in symptoms all these may pass from the original manifestation into one or the other form. Grand mal may be associated with petit mal, or vice versa. A severe psychic seizure may take the place of either petit or grand mal attacks.

Many epileptics show, on autopsy, lesions in the cortex of the brain produced by injuries, meningitis, encephalitis and other causes. The more painstaking study of the brains of these patients will in all likelihood reveal more pathology in the cerebral cortex. Stanley Cobb of Boston (Med. Cl. N. A. Mar. '22, 1416) suggests that "gliosis in the cerebral cortex following injuries or disease may cut off association tracts, causing simplified reflex arcs." Over these arcs it is conceivable that uncontrolled discharges may pass easily, and cause epileptic phenomena." In other words, instead of the normal reflex arc, the impulse is short circuited and uncontrolled and may cause an abnormal reaction of varying degree.

Spratling in his classic on epilepsy (Epil. and Its Treat., 1904) suggested that an epileptic seizure was primarily caused by a reflex from the periphery transmitted to the brain cortex and there converted either into a motor explosion or a psychic upset.

The fact that the two outstanding remedies used to control seizures, pheno-barbital and the bromides, diminish reflexes from the periphery\ would seem to add weight to this theory. Cobb in the article above referred to, states further, "that 'symplified arcs' tend to cause epileptic motor discharges, is found in the feeble-minded. Here we have much epilepsy among the lower grades, and these cases have more or less simplified brains, with a characteristic lack of association fibers." This would also assist in explaining the increase in severity of epileptic seizures and the "habit," for the frequent transmission of nerve impulses would tend to develop these abnormal arcs, and render transmission through them more easy. Conversely anything inhibiting seizures benefits by closing these abnormal arcs.

Epilepsy is not often inherited from epileptic parents; insanity, alcholism, syphilis, and feeble-mindedness, are the chief hereditary causes. However, epileptics should be advised against marrying, if for no other reason, their impaired earning capacity.

Because of lack of time, mainly grand mal types will be considered in this paper, but it is impossible not to refer to some of the other forms. My chief interest, too, is with the younger cases. In my experience the young respond most readily to treatment if instituted early.

The diagnosis of epilepsy in the early preepileptic stage is sometimes most difficult. A grand mal seizure if seen while in progress, is universally recognized, but for an unknown time, these attacks may take place at night, and not a few are overlooked for weeks and months. I have seen several cases in children who were severely punished during this stage, finally going into outbroken convulsions. They seemed cross, irritable and stubborn, and it turned out they were both nervously and mentally unbalanced.

Petit mal and psychic seizures of mild type may pass unnoticed for a long time. It is always wise to investigate any newly developed peculiarity in the mental or nervous characteristics of children, a momentary loss of attention, a slight twitching of the face, upturning of the eyeballs, recurring migraine and numberless other symptoms referable to the nervous system may lead to an early diagnosis, and by the prompt institution of proper treatment, be the means of arresting the symptoms perhaps permanently. Mental tests are sometimes helpful though many epileptics show no mental alienation till late in the disease.

Stigmata of degeneration are only found in the feeble-minded or insane epileptics, but should be looked for in every case. Peculiarities in the ears, facial types, webbed fingers, and other irregularities have more bearing on the prognosis than on the diagnosis.

Auras of various type are sometimes manifested by the patient. Flashes of light before the eyes, everything looking red, or vertigo may precede a seizure. Some cases feel a peculiar sensation in the arm or hand, and a few have found by tying a string tightly around the upper arm when this sensation appears, the paroxysm can be arrested. Some convulsions are preceded by a characteristic cry, and those associated with these cases, know at once that a paroxysm is about to occur, and can help to break the fall or put him in a suitable place so no injury is received.

The gravity of the prognosis should not be withheld in any case of this malady, but no one should be robbed of a reasonable hope. It is best to give the prognosis to the family and encourage hope in the patient. No class responds more readily to encouragement than epileptics.

The next step after making a diagnosis of epilepsy, if the patient is to be treated in the home, is for every known pathology to be removed as soon as possible. Nothing is ever gained by removing healthy tonsils, pulling sound teeth, cutting off normal prepuces, or trephining normal skulls. Much harm has been done by such procedures, and intelligent treatment delayed. A few years ago, a once ethical surgeon claimed he had found the bacillus of epilepsy in the colon of patients and advised the removal of the colon as a cure. He did this operation many times with no doubt much harm to all his patients. I happen to know of one death as a result of this operation. Myriads of other futile plans have been suggested with more or less injury and delay. Perhaps the most heartless of all is the advertised nostrum for the cure of this disease. Practically all contain the bromides in some form. No law is more needed than one to curb this vicious practice.

After the patient's body is put in as healthy condition as possible, his mind must be taken under careful consideration. Try by kindly advice and encouragement to put an objective before the patient that he may attain. The question of school in children is always a serious one, and should be gone into thoroughly. Of course, it is trying for a patient to have a convulsion in the school room or on the grounds, but as a rule the teacher and fellow pupils can be counted on to help and encourage the child, and wherever it can be done the child should go on with his education. Do not let him feel his handicap more than is necesssary. Tutoring in the home can be resorted to in some cases.

Walking and the less violent games should be encouraged and where the seizures are uniformly at night, more liberty can be allowed in daylight recreation. No epileptic of any age should be allowed to operate an automobile, to swim, handle firearms or do anything where a seizure would endanger his own or another person's life.

Personally, I believe diet and the functions of the alimentary tract are of major importance. Most epileptics over-eat and many suffer from constipation and not a few from that modern disease, cathartic colitis. It has been suggested recently that food allergy may be a cause of some seizures. In one case, where the patient was in the habit of eating a hearty supper, and was allowed to go to bed soon after eating, he uniformly had his convulsion immediately on going to sleep. A light supper taken several hours before bedtime, was most helpful in preventing seizures.

Constipation should be controlled by diet where possible, and only petroleum oil with small enemas should be used, except in an emergency, causing a digestive upset, when castor oil or a saline must be given in sufficient doses.

Recently, the ketogenic or high fat diet has been tried and some claim good results from its use. Of course, a laboratory is extremely helpful, but with the diet tables used in the treatment of diabetes and tests for diacetic acid in the urine, physicians can try this line of treatment. It is always begun by several days of almost complete fasting. The acidosis produced is supposed to be the effective element. That has been called in question and I personally believe the partial fasting, and the restrictions in the diet itself probably have more to do with the seeming improvement than the acidosis.

For many years bromides stood almost alone as the medicine to control the attacks, and with careful use, they did great good, but there is no doubt, their long continued employment in large doses did impair the mind and produced other unpleasant symptoms. There are still cases where bromides must be used.

The drug now most in use and which does more to control the attacks, with the fewest unpleasant symptoms, is pheno-barbital or luminal. In infants and very young children, it is best given as luminal sodium.

This drug seems to have its effect mostly on the brain cortex, and in some way inhibits to a large degree the abnormal reflexes. In some patients who have taken it over long periods, the patella reflex and other deep reflexes, are abolished. Its effect in controlling the Parkinsonian syndrome is also marked in many cases.

The minimum dose that will control the epileptic seizures should be found and continued over long periods. It is not ordinarily safe to discontinue its use or even diminish the dose for at least two years after the last seizure in well established cases. It resembles the use of insulin in diabetes for if left off suddenly the seizures are likely to return [illegible] severity and be more difficult to control afterwards.

Pheno-barbital produces unpleasant drowsiness when given in doses sufficiently large to control seizures in a fully developed case, and the patient complains of lassitude. Usually these unpleasant symptoms disappear. It is not often necessary to increase the dose in prolonged use of the drug for it does not lose its effect as some drugs do. The average dose for an adult is 1½ -3 gr. one, two or three times a day, and for a child of ten ½ gr. at the same intervals. In cases where the convulsions recur, at about the same time of the day, one dose given a few hours before that time will often be sufficient to arrest the progress of the disease.

In persons who have an idiosyncrasy to the drug other derivatives of barbituric acid may be tried, and it may be necessary to fall back on bromides in some individuals. Bromides should be given usually with the meals and if the patient has the convulsion at a regular time of the day, it may be possible to control the condition by one full dose given from four to six hours before the seizure is expected. Bromism must be avoided if possible, for the mind is often dulled and the acne often leaves the patient disfigured for life.

Both pheno-barbital and the bromides will often fail in petit mal cases, and have almost no effect in psychic cases, or the psychic seizure replacing the convulsion. Morphine given hypodermically will usually control a severe psychic attack quickly. Probably no other psychosis is so susceptible to the influence of this drug. I think this is almost diagnostic. Necessarily, it is of no value in the petit mal or mild psychic cases, for the attack is usually over before the drug could be administered. In cases of frequently recurring convulsions, the status epilepticus, chloroform administered carefully gives the best results. It is dangerous to give morphine in this condition, for frequently it terminates in deep coma, and morphine given just before coma begins to develop, would only hasten this serious complication, and in all likelihood encourage a fatal termination.

It is rare for the physician to see the patient at the time of the convulsion in ordinary grand mal seizures, but he should instruct those having care over these persons, to interfere as little as possible during the convulsion, only seeing that the patient is placed on his back and out of reach of any object that he might strike with his arms or legs. Nothing is gained by putting a spoon or other implement between the teeth, biting the tongue is not serious, and anything placed between the teeth, might break them. False teeth, tobacco or chewing gum should be removed if possible.

Nothing is more distressing to the family than to see a loved one in a convulsion and the physician should always respond at once when called in such an emergency, even though nothing can be done at the time. The relief of having a doctor in the house is worth more than the cost of a visit, otherwise useless. Always insist on the patient being allowed to sleep off the seizure, and never allow the family to forcibly awaken him for not infrequently severe psychic symptoms may develop just at this stage. If allowed to awaken naturally, the rule is a quiet reaction and nothing complained of but a feeling of fatigue and a sore tongue and a slight temporary confusion.

Every friend will have a different line of advice to offer these sufferers and their families, and it is no easy task to keep them contented with the slow improvement and long treatment. Every recurrence may bring dissatisfaction and the desire to try some other doctor or employ some quack. For the patient's sake, if not your own, try your best to hold them, and if you are really interested, and in earnest, they will find it out and you will win the respect and friendship of the entire family.

Shaw-Mackenzie Test for Cancer—Two hundred serums have been examined by Watchorn by means of the Shaw-Mackenizie test for cancer. In seventy-one cases of malignant growths the test was positive, in forty-nine, doubtful, in five and negative in seventeen. Epitheliomas of the skin all gave negative results, and some cases which had been treated with lead, roentgen-rays or radium, and some cases of advanced inoperable carcinoma in old people also showed negative resutsl. In 102 cases of various diseases other than growths (malignant or otherwise), negative results were ogtained in sixty-five cases, while nineteen were doubtful and 18 were definitely positive. The chief conditions likely to give wrong positive reactions are veneral disease, heart disease, nephritis pulmonary tuberculosis, pregnancy and menstruation. A 1 per cent solution of choline hydrochloride gave results similar to those obtained with the carcinoma extract.

NON-TUBERCULOUS PULMONARY HEMORRHAGE*

By Oscar O. Miller, M. D., Medical Director
Waverly Hill Sanatorium, Louisville.

Pulmonary hemorrhage is ordinarily considered to be of tuberculous origin until proved to the contrary. The figures from a number of observers vary within a wide range, due to the different types of tuberculosis under observation. As an initial onset in tuberculosis it occurs in 10% to 15% of the patients. During the course of the disease, the number of patients that expectorate blood or have frank pulmonary hemorrhages, ranges from 30% to 60%. Stickler's figures in 900 soldiers with haemoptysis 86% in one group and 82% in another were considered to be definitely tuberculous in origin. From this it will be seen that one is warranted always in thinking of pulmonary tuberculosis first in any patient that expectorates blood in excess of one to two drams. It is well known that many other conditions produce hemoptysis, such as mitral stenosis, bronchiectasis, pulmonary abscess, infarction; syphilitic ulceration of a bronchus, cancer of the lung, and sometimes lobar pneumonia may be ushered in with expectoration of bright red blood. These, however, are infrequent causes of bleeding but are to be considered in establishing a diagnosis.

The following case is unique because of the innumerable pulmonary hemorrhages that extended over a period of 19 years without any serious impairment in health. The patient had been repeatedly examined roentgenoscopically and all the films interpreted as negative for pathology. These features are of interest and prompt the following case report:

Mrs. L. B., white, aged 33 years. Her chief complaints are pulmonary hemorrhages, shortness of breath, palpitation of the heart on exertion, uncomfortable feeling in the throat, is very nervous at times and says the hemorrhages seem to come more often during attacks of nervousness than after physical exertion.

Past History: Patient enjoyed fairly good health until the age of 14, when she contracted influenza, associated with cough and expectoration. This evidently did not subside, for she was admitted to Waverly Hill Sanatorium at the age of 14 and remained about one year. While in the institution she had several attacks of hemoptysis and on one occasion a severe pulmonary hemorrhage. She was dismissed in 1911 and went to business school, and the following year she began to work. Shortly after this she had a pulmonary hemorrhage, and says she has been having hemorrhages ever since, so frequently that it would be impossible to estimate the number. The worst hemorrhage were during 1912 and 1918 when she contracted influenza.

She married in 1921. The hemorrhages have averaged in amount from a few drams to a basin full. The onset was several years after her menses had been established and she has had recurrent attacks of hemorrhages every year since. These seem to come at the change of seasons, particularly spring and fall, and to be associated with mental and physical exertion. They have never been observed during her menstrual periods, which have always been regular. The patient has always been busy and has worked hard all her life. The hemorrhage was usually preceded by the expectoration of a dark clot followed by a redder type of blood. On these occasions she goes to bed and applies an ice bag to her chest. She notices she "coughs the blood up" and thinks she feels it in her throat (trachea). During her stay in bed she feels well. There is no acceleration of pulse nor elevation of temperature and no loss of appetite. At the end of several days she gets up and resumes her usual duties, feeling perfectly well in the interim. She says some members of her family (two nephews) bled easily,—one died of embolism following tonsilectomy, the other nephew had a severe hemorrhage after tonsilectomy. The patient also had hemorrhage when her tonsils were removed. She says she was a "blue baby."

Past Diseases: Influenza in 1918, with hemorrhages during this time; she was sick the whole winter. She had measles in 1918, good recovery. She had pertussis when a child; scarlet fever at age of 10; left facial neuralgia at age of 12, with good recovery. Tonsilectomy in 1917 with good recovery, except for a postoperative hemorrhage from throat. She went through a pregnancy in 1914, and stated she was in better health than usual during that time. Her delivery was normal. Patient states she has always been more or less short of breath on exertion. She has attacks of palpitation and skipping of hearts beats. Her digestion has always been good and she is a large eater; intestinal functions regular. She has a few hemorrhoids which have bled from time to time. Patient has always taken good care of herself and has secured a sufficient amount of sleep. There has been no known exposure to tuberculosis.

Present Illness: Begin October, 1928, with a hemorrhage. She went to bed and remained there until December 1st. Just before Christmas she contracted lagrippe and had another hemorrhage. Her history during the present illness simulates that during the past 19 years. She has been "up and down" with frequent hemoptysis, but has not attempted to return to work. She was seen by me May 10th. Diagnosis of pneumonitis of left base was made, and provisionally negative for pulmonary tuberculosis, although a basal tuberculosis was considered. To this end she was admitted to Waverly Hill Sanatorium for observation and treatment.

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*Read before the Louisville Medico-Chirurgical Society.

The examination at that time revealed a young woman well developed and very well nourished (weight 130 lbs). There was slightly diminished resonance over left apex, front and back, with scattered post-tussal rales in the left base between the seventh and tenth dorsal spines, which persisted. The x-ray films made at the sanatorium showed the heart and vessels to be normal.

Right Lung: Root moderately heavy, with heavy trunkal markings to base. Heavy streamers to third zone with occasional pinhead tubercles scattered along their course in the second I. S. Faint fans in apex and first I. S.

Left Lung: Showed some slight changes in the left upper to rib four, which was taken as evidence of a past juvenile tuberculosis. There was a definite heavy density in the left base in the fourth and fifth I. S., which had the appearance of an infiltrative lesion with a small area of decreased density in same. The roentgenological conclusions were negative for pulmonary tuberculosis: Pneumonitis left base, and provisional bronchiectasis.

A Lipiodol injection was made to determine this point, which showed dilatation of the bronchi, and an early bronchiectasis. All of the sputum examinations were negative for tubercle bacilli, 24 in number, which included several concentration tests. There were no spirochetes.

In view of the history of the long duration of the pulmonary hemorrhages it was decided to attempt an artificial pneumothorax as the only means of improving the condition. This was successfully initiated and a satisfactory collapse over the base was obtained with relief of further blood-spitting. It will be necessary to keep the lung collapsed for a period of one to two years. It is hoped by this means to bring about recovery.

COMMENT

Lower lobe lesions occur occasionally which are tuberculous; it therefore, becomes necessary in all such basal disease to definitely exclude tuberculosis, especially in the presence of frank hemoptysis. This becomes more difficult when the x-ray films show evidence of the patient having had a juvenile tuberculosis. Tuberculosis was excluded in this particular case because of the long duration of the hemoptysis, the maintenance of perfect health during this period, the absence of fever and all constitutional symptoms, a persistently negative sputum and a lipiodol injection which clearly demonstrated bronchiectasis in the left base.

It is interesting to note the improvement in the patient during her pregnancy, this was probably due to the high position of the diaphragm and is comparable to some of the results we have obtained with phrenicectomy in similar basal lesions.

SUMMARY

1. Hemoptysis is almost invariably tuberculous in origin and should be so considered until proved otherwise.

2. A patient with hemoptysis extending over a period of 19 years as reported, is proven to be non-tuberculous and due to bronchiectasis.

3. The patient is being successfully treated with artificial pneumothorax, which has brought about relief of all symptoms.

DISCUSSION

Samuel G. Dabney: Dr. Miller has presented a very interesting case. Laryngologists quite often see these cases because the patient thinks there is something the matter with the throat. When the hemoptysis amounts to half a teaspoonful or more, I have generally found it due to pulmonary tuberculosis. Very rarely from the throat or posterior nares.

I will speak briefly of one or two cases. A number of years ago a healthy looking woman was brought to me by her physician for examination of her throat. She was married but had no children. She had been expectorating a teaspoonful or more of blood now and then for months. The physician had examined her thoroughly and the sputum had also been examined and no evidence of tuberculosis found. I told him I thought she had tuberculosis even if we did not find the tubercle bacilli.. I removed her tonsils ten years ago, she made most remarkable improvement after the operation and I thought I had accomplished something wonderful. She had no hemoptysis for several months. She died of tuberculosis about two years ago. Apparently the hemoptysis preceded all other symptoms for a long time.

I called Dr. Miller a few days ago because I wanted him to see a healthy, vigorous looking woman of 46, who said she had been coughing for 10 years. She was sure she was expectorating more than half a teaspoonful of blood from time to time, and my impression was it did not come from her throat. She had been told repeatedly that "it was a nervous cough," and I was inclined to think so too, except for the expertoration of blood. Although she was a well nourished and healthy looking woman, I believed she had pulmonary tuberculosis. Sometimes a few drops of blood expectorated may come from the plexus of veins at the base of the tongue or possibly from a slight post nasal hemorrhage, but I do not believe this ever amounts to as much as half a teaspoonful.

I am glad Dr. Miller has shown us that hemoptysis is not always a serious symptom. When the amount of blood expectorated amounts to half a teaspoonful or more, I have generally found it to be tubercular in origin. I am glad to know that hemoptysis is not always tubercular and that in a certain proportion of cases it is curable.

L. Wallace Frank: There is only one phase of this subject that I wish to discuss, namely, the surgical treatment of bronchiectasis. We have had one case in which the patient was expectorating about a pint of pus daily. Postural drainage had been tried with no result. This man had been "going down hill" for some time. The treatment which we employed in this case was preliminary phrenic exeresis followed by thoracoplasty. We had hoped that by paralysis of the diaphragm and the subsequent reduction in size of the thoracic cavity, the dilated bronchioles would be diminished in size. Unfortunately this did not occur, and thoracoplasty was necessary. We removed sections of the lower six ribs, beginning at the tenth and going upward. Following the operation the patient had a somewhat stormy time, but has since made a nice recovery. The amount of sputum has been reduced from a pint to about four ounces daily, and he is now working every day.

I would like to emphasize one feature in our handling of this case, that is the employment of phrenic exeresis as a preliminary to thoracoplasty. This step, in my opinion, has two important advantages: (1) paralysis of the diaphragm tends to fix the mediastinal tissues and prevents mediastinal flutter, (2) the lung has already been compressed somewhat and there is consequently less secretion in the dilated bronchi, and a smaller amount of the lower ribs may be removed while getting the same amount of compression of the lung.

Oscar O. Miller, (in closing): In cases like the one narrated I do not believe the diagnosis could have been made in the home. I doubted she had tuberculosis, and desiring to make a differential diagnosis, we admitted her to the sanatorium for that purpose. It is unfortunate that there are many similar cases going about. We can not admit them to the tuberculosis sanatorium because they are not a menace to the public, and in the sanatorium we have only sufficient beds to take care of tuberculous patients.

I believe there is a great need in Louisville for a chest hospital for cases of pulmonary abscess, bronchiectasis, etc., and in connection with that, there should be a ward or wing where such patients could be treated surgically. I think this is one of the most neglected fields in chest diseases. Patients with tuberculosis are well cared for, but those with pulmonary abscesses, bronchiectasis and chronic infections of the lungs—not tuberculous—are being neglected.

PANCREATIC CYST: OPERATION: RECOVERY. CASE REPORT*

By Mischa Casper, M. D., Louisville.

Mrs. T. U., aged 43 years, married, weight 100 pounds, was admitted to the Sts. Mary and Elizabeth Hospital, June 10th, 1929. Dismissed well, June 24th, 1929.

Chief complaint: Burning pain in right shoulder, large mass in abdomen.

History and present illness: The patient states that for the past month she has had indigestion, nausea and belching of gas; fruits especially disagreed with her. Some edema of the feet a few days ago.

Past history: The patient had the ordinary diseases of childhood; rheumatism, pleurisy, typhoid fever and malaria at different times. Menstrual history: Menstruation irregular, duration three to five days, moderate and normal. She has had no pregnancies. Family history negative so far as known.

The general condition of the patient was negative as to special senses; mouth, neck and chest normal. Blood pressure 100-70, pulse rate 80. Urinalysis: The urine showed a trace of albumin and many pus cells (voided specimen). Abdomen distended to larger than a full term pregnancy. Bimanual examination revealed uterine fibroid. Preliminary diagnosis: ovarian cyst and uterine fibroid.

Operation disclosed a large monocular cyst from which one and a half gallons of fluid was aspirated. It was then found to be a cyst of the pancreas, one surface of which, from about the middle to the end of the tail, formed a part of the cyst wall. There were a few adhesions to surrounding structures, none of which offered any great operative difficulty in releasing. Gross microscopic diagnosis: pancreatic cyst. Because of its unusual size and great rarity, the specimen was requested for the museum.

The greatest problem of the operation was, what to do with the denuded anterior surface of the pancreas, which was raw and devoid of covering when the tumor was removed. What we did was to roll the pancreas into the shape of a tube, the raw surface inverted, and stitched it in that way. The small end was, in turn, fixed in a rubber tube and thus drained through a stab wound in the side. This procedure had to be decided upon as we went along. Afterward in searching the literature I found that Coffey, who is a bold operator and given to heroic surgery with great initiative in difficult cases, has handled it in a similar way, except he connected the pancreas to the intestine instead of outside. Finney has resected a small tumor from the middle of the pancreas, a cystadenoma, and sutured the two ends together.

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*Read, with exhibition of Patient and lantern slides, before the Jefferson County Medical Society, November 4, 1929

Pancreatic cysts are divided into two types, (1) false, and (2) true. The false cyst is really a collection of fluid in the lesser sac. True cysts are divided into retention and proliferative. The latter, according to different authors, averages from 10 to 20 per cent of all pancreatic cysts. This one belongs to the proliferative type, similar to, in fact very much resembling, those of the ovary.

Pancreatic cysts enlarge in three different ways: (a) above the stomach, (b) below the colon, and (c) between the colon and stomach. This one took the last named route. The uterine fibroid was small and was not removed.

The patient had no post-operative trouble, the stab wound healed promptly, and she was dismissed from hospital ten days after operation.

DISCUSSION

Leo Bloch: The pictures exhibited by Dr. Casper show very clearly where the tumor was located in the case he has reported. I recall having seen two cases of pancreatic cyst in each of which the tumor was situated high above the stomach and tumor could only be reached through stomach wall and instituting drainage with tube into cyst. Under drainage both patients recovered. A sinus with excoriation of the surrounding skin persisted for a long time. Lactic acid was given successfully. The patients were ill for many months but finally made a satisfactory recovery.

Mischa Casper, (in closing): In the case reported drainage was perfect through a tube placed in the stab wound and there was no irritation of the skin. In examining the literature I found that prior to 1915 only 16 cases of this kind had been reported and all the patients lived, except four. Since 1915 there has been a large addition to the literature of these cases. The Mayos alone have reported 40 or 50 cases. I found record of one case in which the surgeon, after removal of a tumor from the middle of the pancreas, sutured not only the pancreas but also the duct of Wirsung, which I take to be very delicate surgery indeed.

CURE OF COMPLETE ADULT RECTAL PROLAPSE BY SUBMUCUOS AND PERI-RECTAL INJECTIONS*

By Wm. E. Applehaus, M.D., Louisville.

Complete rectal prolapse in the adult, while not of very frequent occurrence, is one of the most difficult rectal disorders to cure.

Due to the extensive classifications lavished on this affection by various authorities, most of which are purely arbitrary distinctions, I shall briefly review the more generally accepted divisions.

While a slight eversion of the mucosa occurs normally during defecation, especially if hemorrhoids or polypi are present to drag the mucosa down; a marked accentuation of this condition, where the prolapsed mass consists of mucous membrane alone, the muscular coat remaining in situ, is spoken of as a partial prolapse.

In cases of complete prolapse we find the entire thickness of the bowel wall—the mucosa sub-mucous, muscular and peritoneal coats included in the extrusion.

Invagination of the rectum, or as it is commonly spoken of, third degree prolapse, is an intussusception of some portion of the colon into the rectum. In connection with this variety there may be a true hernia of other viscera into the cavity of the rectum. In this case the prolapsed anterior wall of the rectum forms the hernial sac.

The causes of partial prolapse are rather apparent and are chiefly anything that tends to separate the mucosa from the muscular wall such as violent or long continued straining at stool, edema or inflammatory effusions into the submucosa, or a low grade infection in the submucosa. These facts were proved by Molliere when he produced the disease experimentally by inserting a blow pipe and introducing air under the mucosa causing it to separate from the muscular layers and protrude from the anus.

The treatment consists of either removing the redundant mucous membrane or injecting irritation fluids underneath, thereby producing inflammatory adhesions to the underlying tissues.

When we consider complete prolapse of the rectum our understanding of the causative factors is not nearly so plausible and the multitudinous measures advocated for its cure convince one that the problem is still open for discussion.

A prolapse following severe perineal laceration, senile degeneration or the result of paralysis affecting the sacral nerves is easily comprehended.

A partial prolapse extending over a great length of time producing a marked dilatation and thinning of the sphincter muscles may merge into a complete prolapse.

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*Read before the Jefferson County Medical Society, October 7th, 1929.

We have seen one case in our series of a complete prolapse in a man thirty-five years old that had existed since childhood.

Jeannel assigns as a cause the elongation of the pelvic mesocolon asserting that it is impossible to produce a prolapse in a cadaver without first excising the mesocolon of the sigmoid.

Moschowitz believes a complete prolapse starts as a hernia of the small intestine from the bottom of Douglas' pouch through the anterior rectal wall above the anus.

Some writers believe that wasting diseases producing an absorption of fat in the ischiorectal fossa is an important cause in adult prolapse.

Hanes has long taught that the levator ani is the chief muscle controlling the outlet of the bowel and regardless of the contributing causes, a prolapse rarely becomes complete unless there is a marked attenuation and relaxation of this supporting musculature. This is borne out by Lenormant who cites the common experience in perineal excision of the rectum that only after the levators have been entirely severed, it is possible for the rectum to be completely drawn down.

The predisposing causes of complete rectal prolapse are chiefly severe or long continued and frequent straining at stool and destruction of the perirectal connective tissue supporting the bowel by low grade infections in these tissues. When once established, a prolapse tends to increase in size each time it protrudes and drags more bowel down with it. The extent to which the prolapse may descend depends entirely upon the length of the mesosigmoid.

The measures advocated for the relief of this affliction are legion and consist of a bewildering array of operations for narrowing the anal canal, wiring around the prolapse, amputations, obliteration of the cul-de-sac, plications, pexies, fixations, cauterizations, etc. none of which have proved entirely satisfactory.

With all due regard for these various measures we believe that the most logical treatment should first of all aim at the removal of the underlying causes. Undue straining from a chronic diarrhea, rectal ulcerations, proctitis, polypi, etc., must be relieved before any type of treatment is effective; as habitual straining will usually reproduce the prolapse. Except in specific cases we do not believe removal of large portions of prolapsed tissue or narrowing the anal canal is effective.

In 1922 Hanes reported the cure of a complete rectal prolapse after a colopexy and plication operation had failed by the submucous and perirectal injections of 1-2000 hydrochloric acid. He attributted the results in this case to the production of an inflammatory deposit in the perirectal tissues and attachments of the prolapse which caused fibrous adhesions to these structures. After treatment was instituted the patient's bowels were made to act in the recumbent posture and the prolapse never allowed to protrude again until all attachments had become firmly fixed. In 1924 he reported a series of six cases before the American Proctologic Society.

During the last six years of my service at the City Hospital I have seen two cases, both of which were treated successfully by this method and I would like to report these cases at this time.

The first case was in a rather large, robust, male (negro) about forty years of age. His prolapse had existed for fifteen years and when fully protruded was the size of an orange. His sphincter muscles were very relaxed and the hand could easily be inserted in the rectum without causing pain. The mucosa of the rectum was very much thickened and ulcerated. He had no tendency to "loose bowel" and had great difficulty in having an action at stool. He stated in his history that it would require from two to four hours to have a complete bowel movement. As portions of the fecal column would pass out it would drag the prolapse with it. This necessitated the reduction and reproduction of the prolapse as many as fifteen times for an average bowel movement. If he walked a great deal, attempted to lift, sneezed, coughed, or made any sudden movement the prolapse would extrude. He had had some slight bleeding at intervals but paid no attention to this. Whenever he took a brisk laxative he was hopelessly confined to his room as he had no control over a watery stool or even gas.

He fell into the hands of the law and when his plight was noticed by the authorities he was transferred to the City Hospital for treatment.

His general examination, blood picture, Wassermann, urine and physical findings were negative except for his prolapse and extreme nervousness.

When informed about the treatment of his case he pleaded to be put under a general anaesthetic, due to his extreme nervousness and apprehension.

After being placed in position on the table a 4-inch needle was introduced about a ½-inch from the posterior anal margin and about 40cc of 1-2500 hydrochloric acid was injected on each side around in the perirectal tissues. The needle was then introduced under the mucosa of the rectum and 10 cc hydrochloric acid was infiltrated along under the redundant mucosa in each anal quadrant. The needle could be carried its entire length and after the treatment was completed and 120cc or four ounces of the solution had been introduced there was absolutely no sign of tumefaction of the tissues. He was put to bed and after he reacted from the anaesthetic, continuous massage was made to the parts for several hours to facilitate the distribution of the fluid.

He had a marked reaction to the treatment. His pain was easily controlled with morphine and his temperature rose to 101° F.

Twenty-four hours after treatment the anorectal and perirectal tissues seemed to be inflammatory and we feared he would have an abscess. The application of hot compresses and massage, however, prevented this and the inflammation gradually subsided.

He was given a daily enema of warm normal saline solution and his bowels acted lying recumbent on a bed pan and he was advised to continue this procedure for several months.

The sphincter muscle, freed from the constant divulsion, soon began to regain its normal size and power.

One year after his treatment he had no recurrence of his prolapse. His bowels were acting normally and regularly and there was no evidence that it would return. The mucosa of the rectum, while still somewhat thickened, showed no signs of ulceration.

The second case occurred in a young, white female twenty-three years of age.

She had the usual diseases of childhood, but otherwise was very healthy and robust, and never had any symptoms referrable to her terminal bowel.

At the age of fourteen years she developed sleeping sickness and was ill for thirty days. Five or six months afterward she noticed it was difficult for her to move her bowels and when she strained she had an anular protrusion from the rectum. She had severe bleeding spells and the mass gradually became larger. She began to have frequent stools and passed large quantities of mucus. She began to have attacks of diarrhea which became more frequent and of longer duration and at the end of two years the "loose stool" was constant. She passed blood at every bowel movement and lost weight. She became short of breath and could not walk over a city block without becoming exhausted. She had a constant feeling as if her bowels wanted to move and always had to remain near a toilet.

The bleeding became more profuse and when the patient was first seen at the City Hospital her hemoglobin was 18% and her red blood cells were 870,000.

She had a functional heart murmur, and an absence of free hydrochloric acid in the gastric content.

The prolapse when fully protruded measured four and a half inches in its greatest diameter and extended from the anus about three and a half inches.

The anal muscles had absolutely no tone and the anal canal was patulous. The walls of the prolapse were thickened and granular. When protruded blood seemed to ooze from the whole mass.

The patient was placed on a liver diet, given antiseptic injections in the bowel, and given large doses of dilute hydrochloric acid by mouth. Barium sulphate in heaping teaspoonful doses was given one hour after meals. After several days the "loose bowel" and tendency to straining was relieved and the patient was given a small treatment of 40cc 1-3000 hydrochloric acid preceded by novocain, one-half per cent solution high around the upper rectal wall. She had no reaction from this treatment and continued to gain generally. She never sat up for a bowel movement but lay on her back on bed pan. In this position the prolapse could not protrude.

Eleven days later another 40cc 1-3000 hydrochloric acid was injected as before only at this time the injection was lower down. Injections were also made under the mucous membrane of the rectum. At the third injection, two weeks after the second treatment, the patient's general condition had improved so much that 70 cc of hydrochloric acid was injected around the ano-rectal wall low down. There was considerable redundancy of the anal tissues and to hasten the progress of the case the entire ano-rectal wall zone consisting of a cuff of tissue about one inch wide was removed and the base of the wound cauterized.

She was discharged from the hospital ten days later and instructed to take a daily warm enema and not allow the bowels to move except when lying on her back.

This she did for three months and since then has been having normal bowel movements, has gained twenty-two pounds in weight and has no symptoms referable to the terminal bowel.

This method of treating complete rectal prolapse has proved so successful in our hands that I feel it is worthy of being accepted as a desirable addition to our proctologic armamentarium.

Juvenile Acanthosis Nigricans—Pardo-Castello and Mestre relate the case of a man, aged 23, who presented symptoms of acanthosis nigricans since he was three years old. Evidence of an internal malignant tumor was absent. There was a decreased excitability of the sympathetic system with consequent vagotony, which the authors believe justifies the theory that acanthosis nigricans is of a sympathic and endocrine nature.

FRACTURE OF RIGHT OPTIC FORAMEN: AMAUROSIS*

By Samuel G. Dabney, M. D., Louisville.

Fracture of the optic foramen occurs rather infrequently. It is followed by complete blindness of the eye on the affected side from pressure upon the optic nerve. The blindness is permanent. Fracture of the optic foramen is produced by violence externally applied. The following case history seems of sufficient interest to warrant detail record:

The patient, a woman aged 30 years, was injured in an automobile accident. I saw her in the absence of another oculist. Dr. J. G. Sherrill will later tell us the exact character of the injury. When I saw the patient the following conditions were present:

Her mind was perfectly clear, she was lying in bed feeling comfortable, except she had no vision in the right eye. In my examination the first thing that impressed me was that her right pupil was dilated. The right pupil did not contract when light was thrown into that eye, but did contract when light was thrown into the left eye, proving that the motor oculi to the right iris and the sphincter of the pupil were intact. I then held my hand before her right eye and asked if she could count fingers and she replied that she could not. There was no vision in that eye. She said further that when she recovered consciousness she noticed that her right eye was blind. The eye muscles were intact. Ophthalmoscopic examination showed slight pallor of the right optic nerve. The left eye was examined with and without a mydriatic and found to be normal. This was three weeks after the accident. The diagnosis was thus practically established, the patient had had a fracture of the right optic foramen with pressure upon the optic nerve producing immediate amaurosis. Had I examined her eyes immediately after the accident, I would have seen the same pupillary condition and blindness in the right eye, but I would not have not seen any pallor of the optic nerve. That develops later and becomes more marked in three to four weeks, often after much longer than this. The left eye was perfectly normal in vision, appearance, and pupillary reaction.

The left ear showed some impairment of hearing, and the appearance indicated that there had been rupture of the drum membrane on that side. The physician who saw the case early was wise enough not to drop any medicine in either ear and not to syringe the ear. Very often the use of a syringe to remove the blood after tympanic rupture leads to infection and suppuration of the middle ear. If left to nature tympanic rupture generally heals perfectly. In his case the injury did not extend to nor involve the labyrinth. There was no dizziness nor vomiting, but she was unconscious for a short time after the injury. The symptoms related to me indicated that injury to the ear consisted merely in rupture of the tympanum.

More interesting was the fact that ten days after the injury she noticed left-sided facial paralysis. That was present when I saw her. Paralysis involved all fibers of the nerve; she could not close the left eye perfectly, the entire side of the face was affected including the brow and lids, indicating that it was not central but peripheral in origin. The fact that paralysis developed ten days after injury to the ear and head, I considered a good omen, and that she would be more likely to recover, because it was more apt to be due to inflammatory reaction in the Fallopian canal than it would have been had paralysis developed immediately after the injury. The diagnosis, therefore was: fracture of the right optic foramen causing permanent blindness of the right eye; left-sided rupture of the tympanum with secondary facial paralysis developing ten days after the injury. I believed the prognosis was fairly good except for permanent blindness of the right eye. This prognosis has been verified because she has greatly improved. An eye injury of this kind carries no danger to its fellow.

The third symptom exhibited by the patient was a very important one. In addition to injury involving the right eye, the left ear, and facial paralysis of the left side, she had some hemorrhage into the throat following the accident. About two weeks after the injury and several days after the development of facial paralysis she had a rather sharp hemorrhage from the nose, most of it apparently coming from the poster nares thence gravitating into the throat. On the occasion of my first visit she told me her nose had bled after the accident, but those who saw her were unable to locate the source of the hemorrhage and it ceased almost immediately. When I saw her there was slight bleeding from the nose, but examination failed to disclose whence it came. I thought the bleeding point was probably high in the post-nasal space and thus reached the throat, and she had swallowed much of the blood. Bleeding ceased a few minutes after I saw her.

I saw the patient for the second time two or three days later with Dr. Sherrill, and we believed then that she had lost a serious amount of blood, more than could be accounted for by the nasal hemorrhage. My opinion was that the blood probably came from the spheno-ethmoid region of the right side and reaching the posterior nares gravitating into the throat, some being discharged from the nose, the remainder being swallowed. The anterior nares were packed which for the time being, arrested the hemorrhage. I was unwilling to introduce a post-nasal pack; I never do so if I can avoid it because even a plug left in place for only 12 hours carries the possibility of infection of the middle ear, and besides the posterior packing is intensely disagreeable to the patient. After removing the anterior packing that had already been inserted and waiting for a while, I repacked the nose from the front with a narrow strip of gauze and managed to introduce it nearly to the posterior nares, and the patient was given a dose of morphine hypodermatically. By this time we realized there had been more loss of blood than we formerly thought. The hypodermatic injection of morphine seemed to me to have a most happy effect. She received two doses of morphine which gave her a period of quiet rest. The packing in the nose was left for thirty-six hours and she had no further trouble. I believe the nasal hemorrhage was an important factor in this case. It was obviously a secondary hemorrhage.

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*Read before the Louisvile Medico-Chirurgical Society.

This case was very interesting to me because of the eye, ear, nose and throat symptoms. I believe the patient will make a satisfactory recovery and there will be no danger to the opposite eye. Of course the right eye will remain permanently blind.

DISCUSSION

J. Garland Sherrill: Supplementing what Dr. Dabney has said: The patient and her husband were riding in an automobile on September 30th, when a rapidly moving motor car struck their machine turning it completely over. Both husband and wife were injured, the latter most seriously. When extricated from the wrecked car the patient was unconscious. She had bilateral subjunctival hemorrhage, and a distinct cracked pot note was elicited on the right side on palpating the skull. She was bleeding slightly from the nose, and by the time she was admitted to hospital, she had probably lost a considerable amount of blood most of which was swallowed. Regaining consciousness, she complained immediately of blindness in the right eye. A careful examination of the eyes was not made at first, but it was thought both pupils responded properly to light and accommodation. A roentgen-ray examination was not made, because she was in considerable shock. She was placed in bed and kept absolutely quiet. She seemed to improve somewhat, though she had deafness in the left ear and blindness of the right eye. Not until after the expiration of ten days was any facial paralysis noted, but from the beginning she complained of slight numbness of the left side of the face.

Dr. Wolfe saw the patient on two consecutive days and found the eye grounds normal. There was no evidence of pallor of the optic nerve until some days later. She could not take nourishment because she was unable to masticate. There was a difference in alignment of the jaws, the upper projecting for about one-third of an inch. About ten days after the accident hemorrhage occurred from the right nostril requiring packing. Nasal hemorrhage recurred daily but was controlled by small anterior pack. Things went along about the same for two or three days, when she had a rather severe hemorrhage and packing had to again be used. When this pack was removed she bled rather profusely and the nose was again packed.

When Dr. Dabney saw the patient in the absence of Dr. Wolfe he was informed of these facts, and we decided to pack the nostril, and if not successful determined to give her a blood transfusion, as she had only 40 per cent hemoglobin because of the loss of blood. Transfusion was not given, because bleeding was checked. She is now able to be up and walking about, her facial paralysis has practically subsided, and deafness in the left ear is less marked than before, but she has no vision in the right eye.

The question is whether we would have been justified in operating to elevate the piece of bone pressing on the optic nerve or not. A roentgen-ray examination was not made in the beginning because we thought it might cause further trouble. The conclusion was reached that it would be unwise to attempt any surgery to repair the damaged bone at site of the injury. Upon subsequent roentgen-ray examination it was found she had a fracture across the right optic foramen. When we take into consideration the character of the injury and the manner in which the accident occurred, it would appear that she must have struck her head on some part of the automobile when she was thrown forward.

With further reference to the advisability of operative treatment of cases of this kind: It is a question whether the optic nerve will regenerate after such an injury, although the operative steps upon the foramen to release pressure would entail no especial difficulty. If blind in both eyes, it would be justifiable to risk operation on one side. If blind in one eye only, it might be well to let well enough alone.

Adolph O. Pfingst: I heard only a part of Dr. Dabney's report but was interested especially in the involvement of the optic nerve. It is evident that the patient in this case suffered an extensive fracture to have involved the temporal bone and also the apex of the orbital funnel. No doubt the late hemorrhage from the pharynx or posterior nares was the outcome of an injury at the time of the accident. Unless I have had an unusual run of such cases, I am impressed with the fact that fractures at the optic foramen with secondary involvement of the optic nerve are not as infrequent as one would believe. The fact that this lady was totally blind immediately after the accident and that there was evidence of nerve atrophy three weeks after the injury struck me as unusual. The cases that I have seen have shown a disturbance of vision early, and not total blindness with an increase and final amaurosis and the atrophy was several months in forming. It is questionable whether these cases are absolutely devoid of ophthalmoscopic changes before atrophy occurs for I am sure that a slight blur at the optic nerve edges is not always easy of detection.

It is interesting to note that the cases with pressure are not accompanied by papillodema, demonstrating the fact that the pressure is posterior to the entrance of the central artery into the nerve, and further impressing the fact that choked disc is not believed to result from direct pressure on the veins but to an accumulation of serum in the vaginal sheath with secondary edema at the nerve head. In two cases of the kind under discussion the patients complained of seeing red with the injured eye for several weeks after the accidents. This was especially marked in one of my nephews, who was injured in an auto accident similar to the one that befell Dr. Sherrill's party. This boy saw red for six weeks, he was able to count fingers for six or seven weeks before his vision was lost.

The point Dr. Dabney made about not irrigating the ear after rupture of the tympanic membrane is such an important one that I would emphasize it. Many cases of this kind that would have healed clean and left no sequelae, were converted into suppurating ears by the use of the syringe or drops before union of the drum had occurred.

Samuel G. Dabney, (in closing): I was very much interested in the statment made by Dr. Pfingst about the time blindness develops after fracture of the optic foramen with pressure, injury or division of the optic nerve. What he said does not agree with my experience. In the cases I have seen there was immediate pressure on the optic nerve and blindness quickly ensued. I can hardly see how such an injury could produce a gradually increasing blindness. Had the blindness developed slowly and gradually, I would have concluded it was due to hemorrhage and gradually increasing pressure on the nerve. I have seen several of these cases due generally to blows on the head. I recall one man who was injured by a tennis ball, he had a fracture of the optic foramen. He developed blindness promptly. At first the ophthalmoscopic picture is absolutely negative. Like Dr. Pfingst, I believe the eye changes do not become well marked until the expiration of two or three weeks, often longer. In the case reported there was pallor of the optic nerve or beginning atrophy between the second and third week after the accident. In some cases I have seen optic atrophy was delayed for two months. The first view of the eye shows that the fundus is normal, but the pupil does not contract to light in that eye. Of course, light thrown into the other pupil causes consensual contraction of both pupils, but light thrown into the injured eye alone does not produce contraction of the pupil, there is blindness in that eye from the beginning. When there is bony pressure on the nerve from fracture of the optic foramen, it seems reasonable to conclude that conduction of that nerve would occur immediately.

I do not believe the diagnosis of fracture of the optic foramen can be absolutely made clinically until pressure has caused some atrophy of the nerve. The diagnosis is readily perfected, however, by roentgen-ray examination. The history in this case clearly suggested fracture of the optic foramen and this diagnosis was made clinically which was later confirmed by roentgenoscopy as Dr. Sherrill has stated. I have seen quite a number of cases of this kind and so far as I can recall, the majority of the patients had no serious injury otherwise.

I was interested in Dr. Sherrill's suggestion in regard to the surgical treatment of these cases, it was something new to me. I do not know whether the nerve was completely severed or not, nor do I know whether anyone ever made an examination to show that. I doubt whether surgical intervention would have accomplished anything. Of course it is possible benefit might accrue from surgery, but I have never heard it suggested before, nor have I seen it recommended in any of the text books. The nerve may be completely severed, and if so I do not see what could be accomplished by surgery.

Desirability of Clinicophysiologic Study of Chronic Rheumatism—Van Breemen, secretary to the International League Against Rheumatism, thinks that whereas the pathologic anatomy of rheumatism has been thoroughly studied, especially in the German literature, the clinicophysiologic studies have not been so complete. Therefore, and to simplify the international discussion of rheumatism, the league deems it advisable to submit a plan for the uniform clinophysiologic study of rheumatism in its four principal pathogenic factors: (1) focal infection; (2) rheumatic constitution, hereditary or acquired from sedentary life and overfeeding; (3) disturbances of the cutaneous circulation, and (4) external factors, social or atmospheric.

SPINAL ANAESTHESIA*

By Harper E. Richey, M. D., Louisville.

A great deal of prejudice still exists against the use of spinal anaesthesia. Perhaps the name "spinal" has much to do with this prejudice. Most physicians personally experience some reluctance to undergoing spinal puncture, and they seem to feel that they must protect their patients from any procedure which involves putting a foreign substance into the spinal canal. Of course, such prejudices originated from early failures and mortalities before spinal anaesthesia was placed beyond an experimental stage by the experimental research of the last five to ten years. Anaesthetists, surgeons, physiologists and chemists combined to perfect an ideal anaesthetic drug and to discover the reasons for failures in the past.

Introduced by Corning in 1885 and popularized for a time by Bier in Germany, and Tuffier in France, spinal anaesthesia soon fell into disrepute because of incomplete successes and untoward effects resulting from the use of cocaine as an anaesthetic agent.

Revival of interest in the method followed the introduction of stovaine and novocaine in the year of 1904, but this interest lagged until the world war brought the need for renewed interest and wide adoption of this form of analgesia.

Until 1914 spinal anaesthesia was reserved for special cases. Literature contains the reports of large series of operations under spinal anaesthesia: Yount, 7,000; Duvergey, 1,600; Moriel, 2,876; Riche 3,000; Babcock and associates, 17,000; Guebel, 3,500; Coleman, 7,500; Negley, 5,500; Juvara, 11,000.

Indications:

(1) Intestinal obstruction.
(2) Advanced cardiac disease.
(3) Advanced pulmonary disease.
(4) Advanced renal disease.
(5) Anemic or cachectic patient.
(6) Emergency surgery with poorly prepared patients.
(7) Diabetes.

Contra-Indications:

(1) Weak hypotensive patient.
(2) Shock.
(3) Spinal pathology.
(4) Lues and epilepsy.
(5) Brain tumors.
(6) Gastro-intestinal perforations and localized peritonitis.
(7) Strangulated hernia.
(8) Neurotic individuals.

Spinal anaesthesia offers to the operating surgeon the stimulus of a highly technical method directly under his own control. He assumes a personal responsibility for the success and safety of the analgesia. His injection determines the location, duration and degree of anaesthesia. If, during the operation the patient has pain, or if the muscles are not well relaxed for the operation, he can blame none but himself. With a successful anaesthesia, the surgeon finds his patient in ideal condition for operation. There is complete freedom from pain and other sensations in the operative field; the tissues are absolutely relaxed, greatly facilitating operative manipulations; the intestines are contracted and quiet and do not protrude from the abdomen; and since the sphincters are relaxed and peristalsis augmented, the expulsion of flatus or other content of the lower intestine is strongly stimulated.

The effect of the drug upon the body cells is negligible. The brain, kidney, lungs are practically free from toxic action due to the anaesthetic. In no other way can so profound and extensive an anaesthesia be produced by so small a dose of a drug and with so little general toxicity. With no other method does the depressing action of the anaesthetic appear in the early stage of the operation when the patient can best withstand it.

The shock of the operation as it proceeds is in part met by the rising blood pressure as the blocked sympathetic rami regain their function.

When properly employed, no other anaesthesia leaves so few sequelae—usually sensation returns without other symptoms. Ably used, it is much quicker, simpler, less painful in induction, gives more uniform and dependable anaesthesia and produces better relaxation than sacral anaesthesia. If a well performed operation brings a sense of satisfaction, how much greater the achievement if it has been accomplished with comfort and relative safety to the patient and with utmost facility to the operator. But spinal anesthesia has compensating disadvantages, requiring accurate and precise technique for uniform results—a lack of skill in administration is more obvious than in the use of ether; ignorance in using the method or lack of supervision during analgesia may cost the patient his life. Spinal anaesthesia, therefore, necessitates a degree of skill and working knowledge of the physiological actions involved. It has supreme advantages for certain types of operations but is to be rigidly excluded from others. Perhaps with no other anaesthetic are the indications and contra-indications more clearly evident.

Many bad results have been with a class of patients who were deemed poor risks and unsuitable for other anaesthetic methods. It is hard to understand the reasoning that permitted spinal anaesthesia, which was considered dangerous and unsuitable for the average surgical case, to be used in the debilitated, cachectic, icteric and ascitic to the exclusion of the so-called safe methods.

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*Read before the Jefferson County Medical Society.

In comparing inhalation anaesthesia with regional, one must consider carefully the statistics of the former. For the greater part, these reports come from the best clinics and hospitals. The smaller hospitals and the less experienced anaesthetists results are never recorded and, therefore, there is no record of the mortality in these fields where the greatest mortality exists. The real mortality of inhalation anaesthesia does not occur on the operating table, but secondarily, taking place one hour to one week following the induction. Secondary mortality is 95 per cent of the total and 5 per cent primary. If the laws which govern spinal anaesthesia, based on anatomy and physiology, were thoroughly understood, the limitations and contra-indications would also be understood, and the primary mortality would be no greater than that of inhalation, and secondary mortality would be nil.

PHYSIOLOGY

Anaesthesia is due to a block of the posterior roots of the spinal nerves which is similar to the block produced by chloroform-ether to nerve-muscle preparation. The property of conductivity is abolished early, this allowing operative trauma without sensation almost as quickly as the operative field can be sterilized and draped. The action of the drug on nerve tissue depends upon an affinity between it and the lipoid of the nerve substance. There is a relatively high saturation of the tissues with the anaesthetic and a very rapid fixation by the lipoidal reaction. The old ideas set forth regarding the diffusion rate of anaesthetic in spinal canal, diffusion factors, and postural contact need revision.

It must be emphasized that anaesthetic solutions are rapidly fixed by nerve lipoids and unless special factors are brought into play the amount of diffusion of 4 cc. of solution reinjected after withdrawal of fluid will always be constant. Withdrawal of larger amount of fluid is an important modifying factor in determining anaesthesia level. If the amount of fluid reinjected be kept constant the greater the quantity withdrawn the greater will be the diffusion and, therefore, the higher the anaesthesia level. The diminution of the cerebrospinal pressure caused by withdrawing a great quantity of fluid causes greater diffusion of the reinjected fluid. When the increased dose of drug and solvent is used an anaesthesia to the head may be produced without cardiac and respiratory distress or failure. The following factors may help explain such phenomena:

(1) Anaesthetics of the cocaine group have partial selective affinity for the sensory nerves. In animal experimentation, conduction anaesthesia is best tested on the sciatic nerves by applying the anaesthetic solution to the chosen nerve segment and testing for the disappearance of sensory conduction by peripheral stimulation and conversely for disappearance of motor conduction by central stimulation. According to Hachs, the sensory conduction of the sciatic nerve is lost after one minute, while the motor is not at first affected. Sauterson found that direct contact with 590 cocaine solution broke sensory conduction so completely that the strongest tetanic stimulation peripheral to the treated area was no longer able to produce a reflex, while the same concentration left the motor conduction unchanged for about one hour. Dixon found in studying various types of nerve conduction in vagus trunk above and below a cocainized area that the centrifugal cardio-inhibitory vagus fibers lose their conductivity, while the centripetal reflexly acting respiratory and circulatory fibers retain their conductivity. Numerous other examples are afforded of difference between motor and sensory elements. Sensory nerve endings poisoned by cocaine and not by curara. Vice versa with motor endings.

Ammonia, a strong stimulant to sensory endings in a wound, has no effect on motor nerves. The same may be said of chloroform, ether, morphine, etc. Therefore, it appears that everywhere in the central nervous system the motor mechanism is particularly resistant to narcosis. Thus respiratory movement initiated by purely anatomical motor centers may be maintained despite the existence of a stage of poisoning by anaesthetics in which conduction in sensory fibers has long since been interrupted. It is this property of selectivity dependent upon inherent differences in nerve fiber endings and cells, which participate in the explanation of the phenomenon of surgical anaesthesia of the entire body without respiratory or cardiac paralysis. There is another factor which contributes to the possibility of such anaesthesia, namely: that nerve fiber possesses two separate and distinct properties—excitability and conductivity. The experimental evidence is too lengthy, but by muscle-nerve preparation in chamber of anaesthetic vapor and stimulation by two electrodes—(one peripheral and one central to chamber) it can be seen that it is possible to have anaesthetic action to the point of interruption of sensory impulses in nerve fibers and yet be far from a complete depression of excitability of nerve cells. Thus, sensory impulses enroute to cerebrum may be stopped in the medulla, because conductivity is interrupted, whereas the cardiac and respiratory nerve centers in medulla, although their excitability is lowered, can still respond to the physico-chemical stimuli furnished by the blood by the initiation of motor impulses.

Blood Pressure

So varied are the blood pressure readings that one cannot predict with assurance blood pressure findings. In operations below the diaphragm, there is a slight rise after the injection of ephedrine, which may remain up after the spinal injection of anaesthetic drug. and again may drop 20, 30 or 40 points, later rising to a normal level after the body has accommodated itself to the changed condition of affairs. The initial drop is usually higher in patients with high blood pressure than in those with normal. With high anaesthesia and even that below the diaphragm, the pressure may drop so low that one could not get a registration of monometer, and yet the patient be practically symptomless. The nerve control of the blood vessel is maintained by a set of fibers, one motor or constrictor, and the other inhibitor or dilator. The study of the origin and distribution of those fibers reveals that all the vaso-constrictor nerves of the body leave the spinal cord from the first dorsal to third or fourth lumber nerves inclusive, to go by way of white rami to sympathetic ganglia. The most important vasomotor nerve is the splanchnic. It receives the major portion of the fibers forming the white rami from the lower seven dorsal and upper two or three lumbar roots. The greater splanchnic supplies all of the abdominal viscera and section of it causes a tremendous drop in general blood pressure. In spinal anaesthesia (which is essentially a conductive root anaesthesia) there is interruption of impulses passing through the roots and among other interrupted impulses are the vasomotor stimuli coming from the medullary and spinal centers. The failure of these impulses to reach their destination results in marked relaxation of the vessels supplied by them. Such complete loss of impulses is sufficient to produce enough vascular relaxation in abdominal vessels to hold all of the blood in the body. Such an occurrence would cause marked blood pressure fall and perhaps no brachial pressure could be recorded. The brain always demands a normal blood supply and with such splanchnic vasodilation, a sufficient supply to the brain can only be maintained by gravity drainage to the heart through means of Trendelenburg position. Failure to utilize this position results in fatal lumbar and cerebral anemia, not due to cardiac paralysis but inability of heart to receive enough blood to send on to the brain.

Lumbar Puncture Technique

Spinal puncture is a necessary preliminary for induction of anaesthesia. An improperly done puncture may injure nerve structures, may provoke headache, and cause many other complications associated with spinal anaesthesia. It seems necessary to employ a careful yet simple technique.

The spinal needle should be rustless steel. The gauge should be as small as is practical (No. 22-No. 20), as a small needle makes a smaller dural hole and lessons leakage of fluid. It breaks less easily, tending to bend, but can only be used a restricted number of times. With very small needles, the spinal fluid flow is very slow and mechanical troubles may be encountered with the stylet. A length of three inches is sufficient for the average patient. The point of the needle should be such as to inflict the least trauma and at the same time deposit the anaesthetic solution within the dura. Because of this, a needle with a conical point is used. The point is sharp enough for introduction, but becomes dull on withdrawal of stylet. Fine needles of the above suggested gauge, because of their flexibility, are at times less easy to use than are larger and stiffer needles. A stiff needle retains its direction, even when traversing resistant tissues, and its direction may be altered while it is within the tissues. A fine needle on the contrary, bends easily with resistance and must be withdrawn completely for a change of direction.

Local anaesthesia with novocaine before puncture is desirable because it saves the patient unnecessary pain and discomfort, and he, therefore, keeps his position better during puncture. The skin is the most sensitive structure concerned. The rest of the structures between it and the spinal canal have comparatively little sensation. The structures on the farther wall of the canal are sometimes the site of slight pain if touched with the needle point. If a nerve trunk is touched, sharp pain is caused at the distribution of the nerve. These two last sources of pain are eliminated by careful and exact puncture. Thus, if novocaine is injected under the skin with a little in posterior ligaments, a painless puncture is almost assured.

The position assumed for induction is usually on the side with the knees and head flexed on abdomen and chest respectively. Patients are often apt to become faint and vomit in upright positions and often suffer lumbar puncture shock. A faint or vomiting patient moves and much inconvenience to patient and operator results.

The interspace selected should offer as few possibilities for injury to important structures as possible, should be easiest for puncture and should be at a point giving unobstructed flow of spinal fluid. The cord often ends as low as the body of the second lumbar vertebra. To avoid injury of cord by needle, choose an interspace below the second lumber. As anaesthesia can be easily sent to any height even from lumbo-sacral interspace, it is necessary to choose a high space. As the arachnoid is sometimes adherent to the posterior aspect of the cord, it is evident that with puncture in higher space, the needle may need to traverse the entire cord before fluid is obtained. At the lumbro-sacral interspace the nerve trunks are apt to be adherent to the arachnoid posteriorly. This leaves the second, third and fourth lumber interspaces as those where injury to nerve structures is least apt to occur; for ordinary routine use in normal subjects, the third lumbar has proved satisfactory. Sterile towels are draped over patient's back and operator draws on pair of sterile gloves, paints back with iodine and alcohol, or whatever antiseptic solutions he is accustomed to use in preparing his operative cases. The skin and deeper injection of novocaine is made with a short wait for absorption of novocaine, a point midway between spines is selected and needle pushed in on a line with umbilicus at right angles to the back. The needle is pushed slowly and carefully forward until dura is entered, and if bone is encountered, inserted at a new angle, trying to keep it always at right angles to the back. If points at middle lower and upper borders of interspace fail in a successful tap, try other interspaces. After correct insertion with entrance into arachnoid space on withdrawal of stylet, spinal fluid should flow. Should fluid not flow because of low pressure, compression of jugular veins will increase pressure and cause flow of fluid. Fluid is removed from needle by aspiration through a 10cc luer and fluid used to dissolve novocaine crystals and solution is reinjected into canal after one is assured that needle is still in the arachnoid space. The solution is injected slowly and when completely injected, needle is withdrawn and patient immediately turned upon back and tilted into modified Trandelenburg position.

Complications of Spinal Anaesthesia

The complications and after effects are least understood and feared by surgeons and yet the usual complications can be explained upon a physiological basis and can in most cases be foreseen and prevented. By the use of some drug of known purity, an aseptic technique and atraumatic surgery, it is possible to limit the above symptoms.

Complications are the result of the direct or selective action of the drug on the vital centers bathed in spinal fluid and fault in technique or mistakes in pre or post-operative care of patient. Such complications are classified as (1) Immediate:

(a) Shock at time of puncture and injection of drug.

(b) Nausea, vomiting and sweats.

(2) Intermediate:

Headache, backache, stiff neck and other meningeal symptoms.

(3) Late:

Palsies, persistent headaches and neuroses.

(A) Vasomotor Paralysis

This fall in blood pressure with bulbar anemia is the most feared complication of spinal anaesthesia, but recently Babcock and Koster have proved that patient will soon react favorably to this drop after effect of drug has worn off and sympathetic fibers have regained normal control.

Concomitant with fall in blood pressure are nausea, pallor, compression of chest, thirst, air hunger, cold sweats, slowing of pulse and respirations. Often blood pressure may fall to zero with all blood pooled in splanchnic area. Unconsciousness may occur; however, if respiration is maintained and heart action is good, the blood pressure fall to zero may be well borne, and with proper treatment restored to normal with little, if any, damage resulting. If such a paralysis occurs, it usually occurs in the first fifteen to twenty-five minutes after induction of anaesthesia, and degree is governed by depressed condition of the patient and height and strength of anaesthesia. During this period the bodily functions are readjusting themselves to this change.

Prevention and Treatment

Adrenalin and ephedrine are the only two reliable drugs which prevent this central vasodilatation. Injected five to ten minutes before induction of analgesia or during period of analgesia they cause an elevation of blood pressure which usually persists for a period of fifteen to thirty minutes. The low pressure usually lasts only the first twenty-five or thirty minutes; after this time the drug action has worn off sufficiently to allow an adjustment of blood pressure.

An adrenalin infusion apparatus at hand, foreseeing any extreme drop in blood pressure, 1 mx of 1:1,000 adrenalin to 100cc of normal saline solution intravenously, may be used. One may give as high as 1,000cc slowly without fear of over-stimulation. This stimulation allows the establishment of normal vasomotor.

(a) The whole syndrome is one of cerebral anemia except the slowing of the heart which is due to unrestricted vagal action. The following outline is suggested to prevent any dangerous drop in blood pressure:

(1) Train patient in correct deep breathing.

(2) Frequent blood pressure readings, especially early in operation.

(3) Pre-operative morphine sulphate and

atrophine sulphate.

(4) With early signs of dropping blood pressure—as nausea—compress nostrils and force patient to take twelve to fifteen breaths through mouth.

(5) Blood pressure below 40 mm or imperceptible pulse or shallow respirations, start intravenous adrenalin solution. If no improvement, and cardiac and respiratory failure seem imminent, begin artificial resuscitation;—if necessary, intraventricular adrenalin and cardiac massage.

This is what may happen in severe cases, but with properly selected cases and proper dosage, such will not occur.

(B) Respiratory Paralysis

True respiratory paralysis is due to high anaesthesia and varies with the height and concentration of the anaesthesia, the vitality of the patient and the vigilance of the operator. When roots of the cervical nerves leading to the diaphragm are involved, true respiratory failure begins. This condition may be overlooked until far advanced. The patient may still be able to move the lips and tongue but be unable to talk. Cyanosis and unconsciouness develop and heart action stops unless resuscitation is started. Such a complication may prove fatal unless the operator understands what is happening and is prepared to combat it.

A. (1) Stop all operative procedures.

(2) Treat vasomotor collapse.

(3) If respiration ceases, raise lower jaw, pull tongue forward, and begin artificial respiration. Mouth to mouth is most convenient and efficacious.

(4) Do not give up until all methods have failed and heart actions and respirations have ceased for thirty minutes.

(C.) Shock and Syncope

Most of spinal anaesthesia deaths have resulted from the above factor. No doubt as in other complications improper technique and disregard of contra-indications account for such.

There are six ways of producing shock in spinal anaesthesia:

(1) Lumbar puncture or meningeal reflex: Resulting in nervous or over stimulated patient with insufficient morphine sulphate, injury to meninges by large caliber needle or repeated attempts to enter canal or where patient has been kept in sitting position too long. Onset is sudden with complete collapse resulting in mild faint or death.

(2) Visceral reflex shock: Rough handling of intestines, stomach or omentum pulled upon, or upper abdomen packed off tightly.

(3) Hypersusceptibility: Rarely one finds a patient susceptible to novocaine derivatives. Such drug poisoning may be due to hypersusceptibility to the drug, an unusually strong drug, or to accidental injection of the drug into one of the meningial veins. Symptoms are those of anaphylactic shock and treatment is that for vasomotor, collapse and respiratory failure.

(4) Position shock: This form occurs with sudden change in position especially from Trendelenburg to horizontal positions. Such occurs most often in weak or very old persons. These patients have had almost a lethal dose of the drug, low blood pressure and decreased respiratory rate throughout the operation. Such a shock results from added cardiac shock to an already overladen heart and is the most common complication occuring at the end of the operation. These patients are usually quiet during course of operation; therefore, with such patients—quiet, aged and with lowered vitality—watch for shock and do not subject them to such sudden changes in position.

Treatment

(1) Trendelenburg position.

(2) Forced breathing.

(3) 10 mm. adrenalin intramuscularly with no improvement.

(4) Adrenalin infusion.

(5) Then if there are signs of either cardiac or respiratory failure, pull up lower jaw and begin artificial respiration.

(5) Intracranial pressure shock: Fifty per cent occurred to brain tumors; 58% presented some symptoms of cerebro-spinal pathology. Death may be sudden, beginning with sudden headache or gradual. Condition is rare and no fear should be had if:

(1) Careful history and physical examinations are made and strictly adhere to definite contra-indications for this anaesthesia.

(2) Keep patient on side during puncture and injection. Do not allow to sit up for 24-hours.

(3) Use small needle minimizing the fluid discharge.

Meningitis

Results from faulty technique, and is practically non-existent with correct technique. There are two types:

(1) Non-infective irritative meningitis. This is commonly termed "meningismus" and is a congestion with exudation following exposure of meninges to any toxic substance. Such factors as toxic dose of drug, capillary hemorrhage, trauma from repeated attempts at puncture, injection of air bubbles into dural cavity. Symptoms occur twelve to twenty-four hours following injection with pain along spine, stiff neck, photophobia and nervousness. At times persistent headache, involvement of eye muscles, increased spinal fluid pressure, increased cells. Such condi-

tion is rare and disappears in six to ten days with no after effects.

TREATMENT

(1) Pillow under small of back relieves pain in back.

(2) Persistent headache relieved by withdrawal of 10 to 15cc of fluid.

(3) The nervousness and later neuroses can be overcome by reassuring the patient.

(2) Purulent meningitis: Result of poor technique as above. Symptoms occur in 24 to 48 hours. Headache and restlessness with other characteristic symptoms. Turbid fluid—high spinal fluid pressure and increased cell count and globulin. Such meningitis tends to subside spontaneously, in ten to fifteen days. The best treatment available is:

(1) Frequent lumbar punctures.

(2) Hypertonic salt solution intravenously 30% glucose combined with physiological salt solution given in 200cc injections.

Neuritis and the palsies: Such occurrences are rare and should evoke no cause for worry, as they disappear spontaneously with one exception—when nerve roots are traumatized, resulting in motor or sensory paralysis. There are two types of palsies:

(1) DUE TO TRAUMA AT SITE OF PUNCTURE

Here are found motor and sensory disturbances due to needle hitting spinal roots or nerves of chorda equina. Sharp shooting pains, muscle spasm, anaesthesia in lower extremities, transient paralysis, or irritation of vesical or anal sphincters are some presenting symptoms which subside within a few days. With more damage to nerve roots there will be a more lasting anaesthesia or paralysis. When nerves are completely severed, there results permanent damage.

(2) DUE TO DAMAGE AT A DISTANCE

These are later palsies and are limited to the extraocular muscles and usually to the muscle supplied by the sixth nerve, and occur in the second week following operation and are ushered in by slight photophobia, diplopia, with some symptoms of meningeal irritation. After about ten days the paralysis retrogresses and disappears by the third or fourth week.

NAUSEA AND VOMITING

(1) Such occur during spinal anaesthesia mainly in Trendelenburg position—upper abdomen packed off with operative trauma and pre-existing pathology. But that connected directly with anaesthesia can be eliminated. They are:

(1) Cerebral anemia: May occur early or with change in position, with drop in blood pressure. Nausea may be prevented and stopped by frequent deep breaths or spirits of ammonia, oxygen inhalation, with towel to face, exaggerated breathing, initial hypodermic of adrenalin.

(2) Psychic nausea: This type is the result of certain mental impressions. Patient may be doing nicely when suddenly becomes nauseated. These upsets commonly follow lack of pre-operative morphine sulphate and poor psychology on the surgeon's part. Such questions as "Does it hurt?" and "You must keep quiet now and help us" are suggestive. The nausea is the result of the terrifying thoughts of an over-active mind, which are intensified by the surgeon's thoughtless questions. Sufficient morphine sulphate, an entertaining and co-operative anaesthetist will eliminate this complication.

(3) Reflex nausea: Excessive action of diaphragm, sudden change in position, packing against stomach and manipulation of the stomach all with drop in blood pressure, are sufficient to start vomiting.

(4) Post-operative nausea and vomiting: Concomitant with spinal puncture headache is one of the symptoms of meningeal irritation.

(1) HEADACHES

These headaches have a definite etiology and can be prevented in 95% of cases, and when they do occur, can be quickly relieved.

(1) Lumbar puncture: most common. The patients usually complain of an occipital or parietal headache—appearing twenty-four hours after operation and increases in severity. It is worse when the head and shoulders are raised, but completely disappears when the head and shoulders are lowered.

PROPHYLAXIS

(1) Keep patient quiet during puncture to prevent needle tearing dura.

(2) Use small needle.

(3) Keep patient in Trendelenburg position for twenty-four hours post-operative. Be sure that the patient's head is lower than his pelvis, allowing a clot of fibrin to plug dural hole. Without this treatment, the headache lasts seven to ten days while aperture closes by normal healing.

TREATMENT

(1) Lower head for another twenty four hours.

(2) Eliminate all forms of stimulation and excitement.

(3) Ampules No. 1—surgical pituitrin or ephedrine.

(4) 100 cc of 5% sodium cholride intravenously in more severe cases will give relief in 20 to 40 minutes.

(5) Do not do a lumbar puncture.

(6) Force fluids—200 cc every hour.

(2) MENINGITIC HEADACHE

This type of headache results from meningeal irritation and is due to increase in spinal fluid along with stiff neck, photophobia, etc. Relief afforded by ice cap, aspirin, morphine sulphate and following treatment:

(1) Put patient flat in bed with ice cap to head.

(2) Lumbar puncture to relieve pressure.

(3) Diuretics, cathartics, hypertonic solutions by mouth and vein. Ten per cent glucose in vein will relieve headache if nothing else will—1000 cc every six to eight hours if necessary.

(3) Meningeal Reflex Headache

A mild headache occurring two to three hours after spinal anaesthesia and usually gone in two to three days. Results from meningeal irritation from repeated attempts at puncture or too large a needle. Is not serious, and occurs in hands of best men and is relieved by mild sedatives and morphine sulphate.

It should be realized that most of these headaches are the result of technical errors and are excellent points to be criticized. Their causes should be sought for to prevent recurrences. Common causes are injected air bubbles, punctured veins, traumatized tissues or puncture with large caliber needles.

Elimination of Dangers of Spinal Anaesthesia

The safety of spinal anaesthesia is subject to numerous factors, most important of which is the experience of the man who does it. Experience means not only skill in injection technique, but familiarity with the general principles on which the method is based and clear conception of the nature of the mechanism which operates the various clinical pictures and strict observance of such.

As has been explained previously, the anaesthesia produces sensory and motor paralysis of nerves involved along with vasomotor nerves—the splanchnic system relaxed in proportion to number of vasomotor fibers involved. The dependent portions of the body are richest in blood and elevated parts poorest. Elevation of head produces acute anemia of brain with respiratory disturbances. The vessels of the brain are terminal and lumens cannot be kept wide open unless constantly full of blood; so death from respiratory and cardiac failure results from lack of blood. With this in mind the Trendelenburg position is the only remedy. This should be assumed immediately following lumbar injection and should be maintained for three hours following operation. With its use, pallor, cold sweats and respiratory symptoms are infrequent occurrences. They may be observed, however, when patients—particularly aged and arteriosclerotic—are moved too rapidly from Trendelenburg to horizontal position, usually at the end of operation, such as a second stage prostatectomy.

A pulseless patient with very low blood pressure, in some cases no reading, should elicit no alarm if patient's condition is otherwise good, with no subjective findings. This is indicative of the laxity of the vascular system and lack of adequate means to register the propagation of the waves of each systole. The peripheral resistance having been decreased by the sympathetic system block, it is not surprising that the energy of the heart beats is diminished, and that the frequency of the pulse is modified. The heart, having light work to do, takes a rest during spinal anaesthesia, so for this reason spinal is the method of choice in all cardio-vascular conditions. No attempt should be made to control anaesthesia level by posture. Solutions of various specific gravities which are meant to preclude Trendelenburg position have not given the expected results. The level is not disturbed by posture, but is controlled by the pressure of injection and amount of spinal fluid withdrawn. Danger is not in the extent of anaesthesia, but in the delay in use of Trendelenburg position, because of fear of alleged diffusion or gravitation of anaesthetic fluid to the brain.

Contra-indications are physiological. The vagus or accelerator nerve of intestinal tract being free to overexercise its function after blocking sympathetic system, contra-indicates spinal anaesthesia in perforation of gastro-intestinal tract or localized peritonitis. It is not wise to use it in strangulated hernias or ruptured appendix. It is not recommended in syphilitic or epileptic patients. Any local pathological condition of spine contra-indicates its use along with brain tumors.

Simple technique eliminates many dangers —extemporaneous preparation of solution; its wholesale use should be avoided and used only with discrimination. Other anaesthetics give satisfactory results with surgery of head, neck and thorax. Spinal anaesthesia used for this part of body meets with occasional disastrous results and involves a risk much greater than when it is used for work below the diaphragm. We should not make an abusive use of spinal anaesthesia for fear of losing one of the best instruments of our armamentarium.

Post-Operative Phases

(1) Patients attitude toward anaesthesia: In the past patients have demanded general anaesthesia during operative procedures, and a great many still do. Yet much of the anxiety observed prior to the operation is due to the patient's anticipation of a general anaesthetic. If proper explanation is given patients prior to the induction of spinal anaesthesia regarding the method of induction, what they are to expect as to loss of sensation, etc., they will react splendidly and co-operatively if the anaesthetic is correctly and satisfactorily given.

(2) Prior to general anaesthesia, there is necessarily some abstinance from food and fluid, cleansing of the gastro-intestinal tract, etc.; all of which is unnecessary in spinal cases, with the exception of with-holding breakfast. Fluids can be give freely before and during operation unless the type of operation forewarns the use of a general anaesthetic in conjunction with spinal. Thus, there is no post-operative acidosis; the normal fluid intake prevents dehydration and there is no depletion of blood chlorides as so often occurs following surgical shock associated with inhalation anaesthesia. The copious intake of fliuds aids in the excretion of excess nitrogenous bodies and tends to prevent anhydremia which accompanies the toxemia of surgical febrile conditions.

(3) Decrease in post-operative morbidity. The absence of post-operative nausea and vomiting, profuse perspiration, abdominal distention, thirst, restlessness, ileus, bronchitis, urinary suppression and retention is very noticeable. The necessary limination of fluids and food intake prior to general anaesthesia results in depletion of glycogen reserve of the liver and causes the heat energy of the body to be derived from the fat and protein of the tissue cells. The metabolism of fat in the tissues is incomplete when the carbohydrate coefficient is low and the toxic products of the partially metabolized fat appear in the blood as diacetic and beta-oxybutyric acid and acetone.

(4) Absence of surgical shock: The complete absence of surgical shock following spinal anaesthesia is very marked. The pulse and blood pressure show little or no change during the hours following operation, except from such conditions as hemorrhage, etc.

(5) Decrease in pulmonary complications: Tracheo-bronchial irritation associated with general anaesthesia is avoided in spinal. Post-operative bronchitis with cough and expectoration are not observed, neither is post-operative pneumonia, except in old debilitated patients who die from hypostatic pneumonia.

(6) Lessened myocardial strain: Myocardial cases as diagnosed by the electrocardiogram go through their operation with less jeopardy and better prognosis. The strain on the myocardium from labored breathing, increased pulmonary congestion and post-operative cough do not occur; in fact, the respiration is quiet and slow. Post-operative stimulation is rarely needed as compared to general anaesthesia.

(7) Gastric dilatation and adynamic ileus: The number of gastric lavages is impressively less. Prolonged and repeated manipulation of abdominal pack and retractors in the unrelaxed and heaving abdomen of inhalation anaesthesia undoubtedly has much to do with splanchnic shock and its resultant paralytic gastric dilatation. The relaxed abdominal wall and collapsed intestines are obtained only under spinal anaesthesia. The stimulation of intestinal peristalsis and the relaxation of the sphincters as produced by spinal anaesthesia prevent adynamic ileus. Here, in the Louisville City Hospital, in looking over the records, one is impressed with the paucity of post operative orders following spinal in comparison to those following general anaesthesia; no cough mixtures, no pituitrin or colon tubes, no catherterization, no glucose and rarely are laxatives ever needed.

Psychic Control

The question of mental control must be considered. The average patient, if free from pain and unpleasant symptoms, will stand an operation of an hour or more without trepidation or nervousness. Naturally, we do not choose this method for the high-strung, nervous, apprehensive patients, unless we calm them by preliminary medication with morphine, pantapon, elixir of veronal and scopalomine. When this fails, or the type of patient has been misjudged, it is always best to proceed with general anaesthesia if it is plausible. In cases where the patient is too aware of surroundings, the administration of pure oxygen often helps occupy the mind, leaving no opportunity to speculate as to what is being done.

Under these circumstances, no talking is permitted, for the more quiet in the operating room the more satisfactory are the anaesthesia and the operation. Yet, on the other hand, when the patient desires to talk the anaesthetist may carry on a lively, diverting conversation.

A cold towel over the forehead, cracked ice to crunch, and other factors aid in carrying the patient through the mental ordeal. Never should the possibility of pain be suggested by the surgeon or bystanders, by such thoughtless remarks as: "Does it hurt?" or "Do you feel anything?"

Report of Case Records From Surgical Division at the Louisville City Hospital From January 1, 1928 to July, 1929.

There were 171 surgical operations under spinal anaesthesia. This report covers only 121 such cases.

The average duration of anaesthesia was one hour and a half. There were 36 cases of less than one hour, and 12 cases of two hours and over.

The average dosage of novocaine crystals used, when the records were kept, was 150 milligrams.

There were two deaths under such anaesthesia, and as with deaths in series reported elsewhere, the two cases were bad risks for any type of anaesthesia.

The ages varied from 13 to 79.

Blood pressure changes were not to be predicted, varying from no drop to no manometric reading at all. Quite frequently there was a rise as high as 60-70 milligrams after the administration of ephedrine. The drop usually occurred in the first 5-20 minutes after the spinal injection, but often a secondary drop occurred during the second hour of the anaesthesia. Additional anaesthesia was required in 12 cases: novocaine was used 3 times; gas 7; and ether 2. There were four failures: two occurring in nephrectomies, and the other two in general abdominal cases for appendectomy, due to injection of fluid outside arachnoid space.

At first, during this period, there were very scanty anaesthesia records kept, until February of 1929, when there were recorded everything from height of anaesthesia to subjective symptoms. Subjective symptoms were recorded in 23 cases; nausea 14; vomiting 6; cyanosis 1; constriction chest 2.

TYPES OF CASES

There were 28 hernias, among which were 14 simple inguinal hernias, 2 incarcerated, 9 strangulated, 3 ventral.

There were 43 urological cases, among which were 4 hydrocele, 22 prostates, 4 urethral strictures, 1 carcinoma of the prostate, 1 carcinoma of the bladder, 2 benign tumors of the urinary bladder, 1 bladder calculus, 5 cystoscopies, 1 perineal repair.

There were 9 gyneological cases: 4 relaxed pelvic outlets and 5 pelvic celiotomies.

There were 26 gastro-intestinal cases: 4 intestinal obstruction, 4 cholecystectomies, 1 cholecysto-gastrostomy, 3 carcinoma of gastro-intestinal tract, 1 resection of rectum, general gastro intestinal, as appendix, gun shot wounds of abdomen, etc., 13.

Neurological—1 laminectomy.

Miscellaneous—1 fracture, 2 excision of ulcers, 2 osteotomy, 1 skin graft, 1 cauterization of granuloma inguinale.

Amputations—9 cases.

Among these cases, the various indications for use were high blood pressure, cardio-renal conditions, cardiac pathology; pulmonary conditions, as tuberculosis, asthma; bronchopneumonia; jaundice and asthenia. It was used in cases in which spinal anaesthesia is usually considered contra-indicated, namely: toxic cases and shock.

CONCLUSIONS

(1) That spinal anaesthesia is a selective anaesthesia.

(2) That its administration is safe under the care of one versed in its technique and familiar with its physiology and complications.

(3) That it has definite indications and contra-indications.

(4) That spinal anaesthesia has a lower primary mortality and a negative secondary mortality, as compared with the high secondary mortality of general anaesthesia.

(5) That no other anaesthesia produces such little damage to the general body cells in so small a dosage and with so few sequelae.

(6) That there is no predicting the fall in blood pressure or the height of anaesthesia.

(7) Complications can be foreseen and avoided by proper puncture technique, proper selection of cases, use of ephedrine and the Trendelenberg position.

(8) Surgical convalescence is more rapid and marked by absence of any of the unpleasant sequelae following general anaesthesia as ileus, acidosis, vomiting, pneumonia, etc.

(9) Ephedrine given 15 minues before spinal injection removes the fear of marked blood pressure drop.

(10) That patients are very thankful for such anaesthesia.

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DISCUSSION

Simrall Anderson: The subject of spinal anaesthesia is very interesting. I recall that in 1900 or 1901 I saw Dr. Sherrill use spinal anesthesia in the reformatory at Jeffersonville, Indiana. The anesthesia was successful and satisfactory. There was no mortality in these cases and the symptoms attending and following the anesthesia were trivial in character. At the time I concluded that cocaine injected into the spinal canal in selected cases was an excellent method of producing anesthesia for operations about the rectum, perineum, urinary bladder, and lower extremities. I believe at that time novocaine or the less toxic drugs were not available.

I also recall that Dr. Sherrill wrote a splendid paper on the subject of spinal anesthesia in 1901 or 1902, reporting a series of cases coming under his observation and presenting many others collected from the literature.

J. Garland Sherrill: It makes a man feel old when anyone quotes what he did in 1900. It is true as Dr. Anderson has said that my interest in the subject of spinal analgesia dates from about 1900. My maiden essay before the Kentucky State Medical Association was in 1901, the title of my paper being "Analgesia from the Spinal Subarachnoid Injection of Cocaine." Twenty-seven cases were reported in detail, and the records of about fifteen hundred others collected from the literature were presented. In those days cocaine was used exclusively because we did not have any of the newer preparations. The cases reported in detail at the time occurred in an institution where we had control of the patients and the method was given a thorough trial.

The first injection of cocaine into the spinal canal for the production of analgesia in Kentucky was made by Dr. James B. Bullitt, and I believe the second injection was given by myself. We find practically the same conditions present today as existed then. The technique we employed did not differ in any essential respect from the technique used today. This report was published in the book of transactions of the State Medical Association for the year 1901.

We found that a patient without any preliminary preparation or treatment sometimes went into a state of shock, pallor, cold perspiration, with a low pulse rate, nausea, vomiting, dizziness, etc. In the majority of cases, however, no disagreeable symptoms occur, the patient complains of no pain during the operative procedure, and walks from the operating room to his bed. The same conditions obtain at the present time.

We found that the preliminary administration of adrenalin solution was the best method of preventing shock. Morphine was given in some cases, but it was less satisfactory than adrenalin. In a certain number of cases the patient had slight nausea within two to ten minutes after cocaine was injected. Headache occurred in a larger number than nausea and vomiting. This developed within twenty-four hours after the injection and lasted for twenty-four hours in some cases. Acetanilid and other simple measures were successful in controlling the headache.

In our technique we used 12 to 14 minims of a two per cent solution of cocaine. If we injected a greater quantity we found the symptoms were more serious. At that time there was on record one death from the injection of a stronger solution of cocaine into the skin, so we limited our injections of the drug into the spinal canal to 14 minims of a two per cent solution. We found that less than 10 minims did not prove satisfactory, and that 12 to 14 minims, regulated by the weight of the patient, was successful.

At that time we concluded that spinal analgesia was indicated in about the same class of patients the essayist has enumerated, but it was contraindicated in patients with low blood pressure. It is also contraindicated in highly nervous individuals, has a depressing effect on the nervous system and therefore produces psychic shock.

For operations in the abdomen below the umbilicus, particularly around the anus, rectum, urinary bladder and perineum, spinal analgesia is ideal. Amputations of the lower extremities can be readily performed and fractures reduced under this method.

Tuffier reported a large series of cases and described about the same symptoms as we had. Some surgeons remove 30cc of fluid and submit it to the Wassermann reaction in the desire to check any action on the nervous system by the injection. Wells, of Philadelphia, removes this large quantity of fluid and does not replace it but uses it for making a Wasserman test. I do not believe that is either wise or necessary. In other words, by keeping the spinal fluid at about the same level as before, the patient will have less shock. Spinal analgesia lasts one hour and fifty-five minutes and it may be prolonged beyond this time.

Spinal analgesia is a valuable method and the technique of injection is not difficult. Anyone with adequate knowledge of anatomy of the spine can acquire the technique and make spinal injections. As stated it is a valuable means of inducing analgesia in suitable cases and it has never fallen into disuse; it has been employed in Europe continuously and also by many surgeons in this country.

In my original essay on this subject I stated that spinal analgesia had a considerable field of usefulness, and still believe it has a very useful place in surgery.

David C. Elliott: During the past four years, in Louisville, spinal anaesthesia has been used in about eleven hundred cases. In all these cases the anesthesia was successful. In the city hospital we have had four hundred cases, in private practice three hundred, and four hundred are reported at Sts. Mary and Elizabeth Hospital. In this series there have been but five deaths. Two deaths occurred in the city hospital, two in private practice, and one at Sts. Mary and Elizabeth Hospital. In view of the fact that many of the patients were in desperate condition, hence poor surgical risks, the mortality rate has been very low; and I believe in these same patients under other forms of anesthesia the mortality would have been greater.

As stated by Dr. Sherrill, spinal anesthesia has always been used more or less since its introduction. It has never been abandoned. As in other forms of anesthesia, there are occasional mishaps, but these are infrequent when cases are properly selected and standard technique employed. The field for spinal anesthesia is limited. The dangers are increased the higher the operation in the abdomen, but when confined to below the umbilicus, in the lower extremities, the urinary bladder and prostate, spinal anesthesia is ideal. It may be safely used where patients have pulmonary, renal and cardiac lesions or complications. It should never be used in a moribund patient nor in cases of extreme shock.

I disagree with Dr. Richey on one point. I do not believe the surgeon should administer the spinal anesthetic. While it is true the technique of spinal injection is in itself relatively simple, yet the patient requires constant observation during the operative period, and in the event of marked recession in blood pressure, stimulative measures become necessary. I do not agree that the surgeon should be called upon to administer drugs or intravenous saline under these circumstances and then step around to the other side of the table again to hurriedly continue his operation. The majority of the surgeons by whom I have been called to give spinal anesthesia believe it is better and safer, when such a contingency arises, to have one person (who is always called in consultation before administering the anaesthetic) record the blood pressure and be responsible for the general condition of the patient, leaving the surgeon free to take care of his work.

In spinal anesthesia we have an ideal method for surgery confined to certain fields. Spinal puncture is frequently used for diagnostic purposes only, and even under such circumstances traumatism to the dura sometimes causes marked recession in blood pressure. When this occurs if a little ether be placed on a cone over the patient's mouth allowing him to take a few inhalations of the vapor, just enough to cause slight stimulation, the shock soon disappears. I have used both adrenalin and ephedrine, and of the two adrenalin is probably safer as ephedrine sometimes has a marked depressing effect on the cardiac rate. It is only after having observed patients with either hypertension or cardiac lesions that one can conclude which is the best agent to use. It is my impression that cardiac cases, when the patient is saturated with digitalis, and in hypertension cases, it is not always necessary to give extra stimulation.

I have enjoyed Dr. Richey's paper and the discussion very much.

Richard R. Elmore: I am more interested in the academic phase than in the practical application of spinal anaesthesia.

For more than a score of years the fortunes of spinal anesthesia have ebbed and flowed, each irregular recurring cycle has lifted the efficiency of this method to a higher plane, and back of it is the ceaseless effort to get away from inhalation anesthesia.

Dr. Size, anesthetist for the Lahey Clinic of Boston, has written one of the most comprehensive articles on this subject in which he emphasizes the use of ephedrine to prevent the inevitable reduction of blood pressure and of a non-diffusible carrier for the anesthetic. Also a solvent fluid of heavier or lighter gravity than the spinal fluid to make it possible for this form of anesthesia to be utilized in high abdominal operations with greater precision and margin of safety than ever before.

Relative to the safety of this procedure, he asserts, it is not intended for promiscuous use and recalls Babcock's results in his first 5000 cases—with ten deaths, many narrow escapes, and various complications, with 10 per cent of cases having unsatisfactory anesthesia; but in his last 10,000 cases there were no deaths, few complications and anesthesia almost uniformly satisfactory.

Dr. Pitkin, of Teaneck, N. J., published an article, in 1927, on "Controllable Spinal Anesthesia," which attracted much attention in the East and encouraged the use of this method. All the men I saw using it in Boston, in the summer of 1928, were quoting Pitkin as an authority on the subject. I inquired of a senior house surgeon at the Massachusetts General Hospital, if they were using spinal anaesthesia. He asserted they had all been using it quite extensively, but they had had some misfortunes recently, so the staff restricted its use to two members of the staff, who were especially trained for it. Boston City Hospital also depended on trained anaesthetists for its use.

The attitude of the average surgeon is illustrated by the remarks of the attending surgeon at the Cook County Hospital, in 1927, when he said, "a visiting anaesthetist requested some patients in Cook County Hospital upon which to demonstrate spinal anaesthesia. This request was denied him, but he did secure two patients, in a West Side hospital, who were given spinal anaesthesia, and both of them died from the anaesthetic." I do not vouch for the accuracy of this report and mention it only because I believe it represented the sentiment of many surgeons in 1927.

The Percy Clinic, at the Agustana Hospital in Chicago, is the only one I know of, in that city, which has or is using it as a routine for adults in abdominal operations. Dr. Percy was impressed by this method, at the Lahey Clinic, and sent his anaesthetist to the Holy Name Hospital at Teaneck, N. J., where he was trained under Dr. Pitkin in 1928.

Anaesthetists at the Mayo Clinic stated that they seldom used spinal anaesthesia, other than sacral; when they did the spinal fluid was used as a solvent for the procaine.

The conclusion to be reached from this survey is to the effect that spinal anaesthesia may be used in some of the large clinics by anaesthetists trained in this procedure with satisfactory results, but as a matter of fact, this procedure is of itself something of an operation and the severe drop in the blood pressure requiring use of ephedrine, is highly suggestive of a profound shock to the body tissues.

Harper E. Richey, (in closing): I thank you for your courtesy and discussion of my paper. Although I am yet young in the field of spinal anaesthesia, I am very enthusiastic over its possibilities and past successes. Experience is one's greatest teacher, and I have seen spinal anaesthesia used in selected cases with splendid results, especially in the aged and asthenic. In patients with arterial, renal and cardiac disease sometimes far advanced, spinal anaesthesia is safe, and it affords aged persons an opportunity for operation when no other type of anaesthesia could be successfully used.

I think Dr. Pitkin is to be congratulated upon his researches in this field. His method may be criticised by some, just as may any other method of spinal anaesthesia, but he has been successful and many others are advocates of his method. However, it seems to be the consensus of opinion that the simpler the method used the better. Extemporaneous preparation of the anaesthetic solution at time of operation is advised and the Trendelenburg position should always be used.

In closing may I repeat that spinal anaesthesia has its limitations, and I hardly think, as does Pitkin, that the time will ever come when the patient will ask: "Doctor must I go to sleep" instead of saying: "Doctor put me to sleep."

Cervical Injury and Repair—Cervical lacerations, because of their frequency and the morbidity to which they give rise, deserve, Norman 5, 1929) believes, more serious consideration H. Williams, Los Angles (Journal A. M. A., Oct.) than they generally receive. Of 100 women delivered through the birth canal, eighty-six showed unmistakably evidence of injury to the cervix. This statement is based on the study of 500 consecutive deliveries, with the idea of discovering the types and extent of such injuries and the possible influence that bring them about. For instance, these lacerations may be divided according to their extent. First degree is used to designate those involving the mucosa only; second degree those involving the body of the cervix, and third degree those extending beyond the cervix into the vaginal vault and broad ligament. Unquestionably, the most frequent lacteration is that involving one or both sides of the cervix. In this series the bilaterel tear was found in 65 per cent of the injured patients. Believing the age of the patient to be a possible factor in cervical injury, Williams reviewed his cases from that standard and found that among 218 primiparas those of 30 years or more show a percentage of injuries greater than in those under 30. In fact, practically all patients showing no injury were below 25.

INFECTIVE EMBOLI WITH PURPURA AND SPONTANEOUS AMPUTATION OF TOES. CASE REPORT*

By J. Garland Sherrill, A. M., M. D.,F. A. C. S., Louisville.

The case offered for your consideration presented a train of symptoms so unusual as to be worthy of record. It is interesting particularly because of the vascular and cardiac symptoms which developed after the patient was recovering promptly from an apparently mild form of pneumonia. These symptoms progressed until the condition of the patient became very grave and for a time there seemed but little chance for her recovery.

Mrs. J. D., white, female, aged 53, had been ill from March 5, 1929, until April 18, 1929, when I saw her in consultation with Dr. J. P. Ferguson and Dr. W. F. Boggess and the following history was obtained:

Mrs. D. was married, age sixteen with three children from this union, and comparatively healthy until twenty-three years ago, when she had an abdominal section for "appendicitis and ovarian trouble." At the age of thirty-five she had menorrhagia which was relieved after a few months by local treatment. Following this she was in moderately good health until her present illness. She was married a second time in April 1920, from which union there is no issue. Menstruation ceased about ten years ago.

Family history was unimportant, except mother died of a cardiac lesion.

About four weeks previous to precipitation of illness she felt lack of energy, was fatigued, depressed and had an occasional rise of temperature. On March 5, 1929, she had a sudden chill while at work as a dress fitter and was sent home when Dr. Ferguson was called and found her with a temperature of 105° F., pulse 130, weak and irregular. He made a diagnosis of pneumonia, involving the right lower lobe. After being sick about eight or nine days, when she began to get better. Temperature subsided, some improvement. On March 14 was sitting up and that night had a severe spell of coughing, expectorating some blood. Her finger tips and toes, also the end of her nose, became purple. A well defined septic-parotitis developed on the right side. She suffered considerable pain over the ears and inability to use her jaws properly, so Dr. Dean was called, who concurred in the diagnosis and opened the parotid duct, from which was discharged a considerable amount of purulent material. After a day or so patient began to improve, but still suffered considerably. Purplish condition of the face, toes, fingers and finger-nails remained. A diagnosis of purpura hemorrhagica was made. This condition continued and on April 1, she had a coughing spell and another severe hemorrhage from the lung. The hemorrhage condition of her nose, fingers and feet became more severe. She suffered pain in the nose and fingers, and agonizing pain in the left foot. Dr. Dean saw her again and the parotid condition improved. Dr. Boggess was called the following day. Her hands began to swell considerably and the nose bleeding continued, also hematuria developed. A blood count, by Dr. Allen, showed red cells 3,610,000; white cells 16,000. He thought the findings suggested degenerative changes in the terminal capillaries, rather than any pathology in the blood itself. The urinalysis indicated serum albumin present, haemaglobin present, bacteria present. Leucocytes in urine showed intense pigmentation of hemoglobinuria. Wassermann reaction weak positive one plus.

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*Read before the Jefferson County Medical Society, September 16th, 1929.

At my examination I found Mrs. D. to be prostrated, anemic, dyspnoeic, with rapid feeble pulse. The heart sounds somewhat muffled but without perceptible murmur. There was ischemia of both fingers and toes extending toward feet and hands. Ecchymotic discoloration was most marked in the toes of left foot but present in right foot and each hand. The structures were cold to touch and circulation markedly impaired. She complained of severe pain in hands and feet. There was nothing in the case to indicate Raynaud's disease, taking the hematuria into consideration, and the conclusion was reached that the hemorrhages were purpuric in type and an embolic process was present. Under intravenous glucose, normal saline and soda solution by proctoclysis with occasional addition of adrenal solution, heat to extremities and morphine she showed gradual improvement. She continued to suffer pain and was admitted to Sts. Mary and Elizabeth Hospital June 10, 1929.

Her blood picture showed:

Hemoglobin	31%
Color index	.8
Coagulation time	7m. 10 sec.
Red cells	1,990,000
White cells	8,700
Small lymphocytes	32%
Large lymphocytes	5%
Transitionals	2%
Polynuclear neutrophiles	61.00

Urinalysis: Urine: color, straw; turbid. Specific gravity, 1008. Albumin, trace. No sugar. Occ. granular, Occ. epithelium, pus cells 2 Hpf. Blood 23 Hpf.

After vigorous and steady treatment the fingers slightly changed, but the left foot continued to grow worse. This continued through the months of April and May, at which time a decided gangrenous condition of the left foot developed, turning it black, extending from the bottom and the sides of the foot, also involving the heel. Under treatment the hands and face now improved, but the left foot continued to grow worse, resulting in the spontaneous amputation of the bottom of the foot, heel and toes. There was one toe left when she was removed to Sts. Mary and Elizabeth Hospital on June 10, 1929. She was there under treatment until June 14, when the other portion of the toe became detached and was removed, since which time she has made considerable and rapid improvement. Some sensitiveness about the foot persists and the full amount of function is not yet determined.

DISCUSSION

J. P. Ferguson: When I first saw the patient (March 6th) she was emaciated, nervous, depressed, and did not want to recover. Her breath was very offensive; temperature 105° F., pulse 130, respirations rapid. Examination revealed solidification of lower lobe of right lung. Alkaline and supportive treatment was instituted. After eight or nine days there was considerable improvement, but her daughter said: "Mother's face, hands and fingers become purple during paroxysms of coughing."

When I called March 14th and found the patient had been sitting up in a chair for nearly an hour, she was returned to bed and told to remain quiet. That night she had a severe coughing spell and ejected many large blood clots, and had epistaxis at the same time. Her face, nose, fingers and toes were purple. A diagnosis of septic purpura was made. Parotitis developed on the right side.

On April 1st she had another severe paroxysm of coughing and again expelled a large quantity of blood. The nose, fingers and toes became more hemorrhagic. Pain in right ear and side of head persisted, and Dr. Walter Dean was called. He opened the parotid duct and evacuated a large amount of purulent material. Pain in the finger tips and toes became agonizing, especially toes of the left foot. Dr. W. F. Boggess was called in consultation and concurred in the diagnosis and treatment.

Blood examination: Hemoglobin 70 per cent; erythrocytes 3,610,000; leukocytes 16,000. Urinalysis: No albumin nor sugar. Wassermann reaction: weakly-positive. No culture was made of the blood. Hematuria became pronounced and there was some blood in the feces.

Dr. J. Garland Sherrill was asked to see the patient, and concurred in the diagnosis and management. Supportive and alkaline treatment was continued during April and May. The left foot was elevated and antiseptic dressings applied. Pain was so severe that large and frequently repeated doses of opiates were necessary to afford relief. The purpura gradually subsided except that of the left foot, which became worse, involving the toes, sole of foot, and heel. Spontaneous amputation finally occurred as stated by Dr. Sherrill.

On June 9th the patient was removed to Sts. Mary and Elizabeth Hospital, and June 14th Dr. Sherrill removed the remaining sloughing toes. The patient has made a complete recovery.

Walter Dean: I saw this patient with Dr. Ferguson soon after she had recovered from pneumonia and at the beginning of her vasotrophic changes. The end of the nose was purple and cold and so were the ends of the fingers and toes. It was suggestive of diabetic gangrene. Under cocaine anesthesia, I dilated the parotid duct on the right side and was able to massage two or three cubic centimeters of pus from the parotid gland. This massage was continued and the parotitis subsided.

During the last winter I saw six cases of suppurative parotitis all one-sided. One followed a gastro-enterostomy, one followed an automobile accident with injury to the chest and large ulcers on the back, one followed a middle ear abscess in a child with coryza, two followed influenza and one came from a dental condition.

When possible these cases should be persuaded to drain through the duct into the mouth, and not opened through the skin as salivary fistula may develop and persist.

D. P. Hall: Dr. Sherrill has presented a very interesting and peculiar case. My explanation of the pathology would be: that this lady had an extensive involvement of the lung during the course of the pneumonia, and that showers of minute infective embolic processes were transported throughout the blood obstructing the veins of the nose and capillaries of the extremities. This would account for the hemorrhage and gangrene of the toes and the spontaneous amputation which followed.

I would like to ask Dr. Sherrill whether the patient had any elevation of temperature when the discoloration began to disappear from the hands, feet and nose?

J. Garland Sherrill, (in closing): At the time I saw the patient she had very little elevation of temperature, but occasionally during the time the gangrenous tissue was separating, there was some absorption from the line of demarkation between dead and living tissue with some rise in temperature.

Dr. Ferguson is to be commended for the care he gave the patient, visiting her home for days and days and giving her careful attention without any expectation of remuneration. I think it is due to his unremitting care that the woman's life was saved.

I am not positive about the exact nature of the pathology in this case. Where there is disintegration of the blood, where there is infection of the blood itself or severe toxemia, and where the blood is more easily extruded from the vessels, purpura occurs over the entire body. The solution offered by Dr. Hall seems more likely in this case, that there were minute emboli blocking the terminal vessels of the fingers and toes.

When the patient was admitted to hospital all toes of the left foot except one were absent. The remaining toe was attached by a small section of tissue, this was merely separated and the toe thus removed. The patient has improved to the point where she is a much better surgical risk than when she entered the hospital. If she does not regain sufficient use of the left foot, amputation may be performed and an artificial foot provided later.

MANAGEMENT OF DIABETES*

By Frank M. Stites, Jr., M. D., Louisville.

Just one generation after the discovery by Von Mering and Minkowski that complete removal of the pancreas resulted in fatal diabetes did Banting discover that Insulin would regulate carbohydrate metabolism. These were the most noteworthy works done since Langerham discovery of the islets in 1869.

Literature is so voluminous on this subject that simply the mentioning of these facts will suffice for this paper. Much could be written about the perfection of their work in recent years but this paper is to present the management of diabetes in such a way that the man in general practice with limited time, limited facilities and only an occasional case can feel competent to treat this disease in a scientific and modern method. It would be folly to refer to the older methods except as they are applicable today, for the management is now a settled routine with slight variations according to individual needs and environments.

Joslins' statement that diabetes is a disease of civilization and of increasing frequency behooves each of us to equip ourselves to treat those so afflicted. We should consider each case of glycosuria a case of diabetes mellitus until proven otherwise and the differential classification is a most important step in the management. A good classification being as following:

1. True diabetes—increased blood sugar.
2. Potential diabetes—obese with glycosuria
3. Renal glycosuria—normal blood sugar and glycosuria.
4. Unclassified diabetes

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*Read before the Christian County Medical Society.

(a) Gall-bladder disease.
(b) Malignant pancreas.
(c) Pregnancy.

Diabetes should be diagnosed in patients in whose urine there is or is not sugar but in whose blood the quantity of sugar on an uncontrolled diet is constantly above normal.

In considering any treatment it is always of importance to consider prophylactic measures, and in diabetes this is actually of primary importance, for there are groups especially liable to pancreatic deficiency, namely the obese, middle age, those with familial tendency, those of sedentary habits and certain races (Jews).

Of importance in preventing diabetes is the proper handling of your obese cases. See that a normal or slightly subnormal body weight is maintained. This is done not by spasmodic dieting but by constantly following a balanced diet of relatively low caloric value. This can easily be accomplished by giving a list of the foods that are low in carbohydrates, namely the 5% and 10% fruits and vegetables, restricting bread, especially white bread and substituting rye bread where possible. Limiting fatty foods to a minimum, using little butter, no fried foods or fat meats. Let desserts be used quite sparingly and use only the simple desserts of low food value. These brief instructions or a printed diet list with emphasis to avoid too large quantities of fluids, not over three pints daily and as much exercise as the circulatory system can stand will usually suffice.

With the following of the above instructions a large number of cases of diabetes mellitus will be avoided and even the milder cases of pancreatic deficiency will show rapid improvement. These are the types of cases that are neglected and too much emphasis cannot be used in outlining the possibilities to those who are threatened with such a condition. Proper education of your patient increases his confidence in the physician and saves future trouble for both physician and patient. Under no circumstances should the suspected or potential diabetic or the patient with occasional glycosuria be advised regarding diet etc., until his fasting blood sugar is determined while taking his usual diet. Failure to do this will result in missing many cases of true diabetes mellitus and another physician at a later date will receive credit for a diagnosis that should have been made earlier.

This should be sufficient for us to bear in mind regarding the prophylaxis but the handling or management of the patient with a true diabetes mellitus is of greater import. There are so many degrees of the disease using the blood sugar as a standard that many physicians are at a loss to know just how to classify their cases. In this paper it seems best to endeavor to show that most patients with an occasional help from the laboratory can be handled by the physician at home who has made a study of this work. Both because of the exhaustive details and horrible possibilities from this disease and the improper handling of a case the average physician has come to consider diabetes a disease that must be sent to the specialist. This paper is presented to give you the salient points in the management and present them in a way that each of you can carry out the treatment.

One difficulty that arises is just how much is best to teach a patient, and it is hard to agree with Dr. Buchanan of Brooklyn, when he says that he does not believe in teaching his patient about calories, carbohydrate, protein and fats. The patient can be a help to himself and the physician when given a certain amount of training but do not try to make diabetic specialists out of each patient—most of them will do as they are told if shown a good reason for so doing.

Glycosuria

The great majority of cases are found in the first place because sugar has been found in the urine. And because this step is simplest and of great importance it is best to know how, when and why this test should be run.

The technic is simple, requiring a test tube, 5cc of Benedict's solution, 8 - 10 drops of the patient's urine and a hot water bath. The urine should be from the total 24 hour quantity and not part of a single specimen. 8 - 10 drops are added to 5cc of Benedict's solution in a test tube and this is immersed in a boiling water bath or tested over a flame for several minutes. If no sugar is present the solution is unchanged but when glycosuria is present the change in color is from a greenish turbidity to a yellow or even reddish color according to the quantity of sugar found. Frequently when only a trace is present the Benedict's solution will not change until cooled and this opportunity should be afforded before giving a negative report. Certain conditions will give an abnormal reduction of Benedicts solution, such as bile, pus or certain drugs in the urine and it is necessary to know this differentiation.

An evaluation of this test is necessary, for it should be done daily when sugar is present and the patient can be taught the technic in a few minutes time. However, it is best to first describe blood sugar values and methods of determination before further evaluating urine sugars.

Blood Sugar

Here is the first step that causes the majority of the physicians to become apprehensive about the management of diabetes, and it can be made such a simple process and so feasible where laboratory facilities are available to all of you within such a short time. In former days intravenous work was considered more or less of a difficult task but with the advent of intravenous therapy, such as neosalvarsan etc. there are very few physicians who do not have the technic for such work. Before going further remember once and for all that when we speak of blood sugars we mean the amount of sugar in the blood after approximately twelve hours fast; other determinations are subject to such variations that they can not be evaluated.

Have a sterile 5 or 10cc Luer syringe with a 18 - 20 bore needle and a small bottle or test tube which contains a few particles of potassium oxalate. A turnicate, preferable the blood pressure cuff, is then thrown around the arm and 80 to 100 mm. pressure maintained until one of the veins in the front of the elbow is located. Then sterilize the skin with alcohol and introduce the sterile needle into the vein, withdrawing about 5cc of blood, which is placed in the oxalated container and shaken for a few moments. This may be tested at a convenient time during the next twelve hours for the amount of sugar present and the method used is the following which requires very little material, is simple and can be run in a short while. Or if you haven't the time or facilities, it may be sent to your laboratory.

2 cc of the well mixed oxalated blood is measured in an Ostwald pipette into a centrifuge tube, to which is added about 4 volumes (8cc) of distilled water using the same pipette for this and thus washing all blood from the pipette.

To this is added about .5 gm. of powdered picric acid which is stirred vigorously until the mixture is a light yellow. This is now centrifuged and 3cc of the supernatant fluid pipetted or filtered into a graduated test tube to which is added 1cc of a saturated sodium carbonate solution. This is now set aside and labeled with the patients name until the standard is prepared.

To another graduated test tube add 3cc of the permanent standard solution (which is a .02% glucose in saturated picric acid) and 1 cc of the saturated sodium carbonate. This is labeled standard.

Both tubes are now placed in a boiling water bath for 15 to 20 minutes, after which time they are removed and cooled. The standard solution is poured into the graduated colorimeter tube washing the original tube with distilled water and adding it to the colorimeter tube until the 10cc mark is reached.

Then the unknown is poured into a similar colorimeter tube and distilled water added in small quantities (mixing) until the color corresponds exactly with the standard. The reading is then taken in cc and multiplied by 10, giving you the milligram per 100cc of blood. Normals reading 80 - 120 mgm. per 100cc blood.

The urinalysis and blood sugar determination have enabled you to diagnose the diabetes and at this point a small amount of training will enable you to have a patient, who can be of real service to you as well as himself.

The next step is to determine the food requirement for the existing patient and before this is possible we must know what certain foods become when ingested.

(a) Carbohydrates are converted into glucose. Thus every 100 gm. of carbohydrate results into 100 gms. of glucose.

(b) Fats are saponified into glycerol and higher fatty acids before they are oxidized. Glycerol in turn is converted into glucose. Thus every 100 gms. of fats give 10 gms. of glycerol and 90 gms. of fatty acids.

(c) Proteins are converted into amino-acids. Of these a part form glucose and a part form fatty acids. 100 gms. (protein) = 58 mgs. Glucose and 46 gms. Fatty Acid. From the above known facts two simple equations result.

1. Glucose = Carbohydrate plus .58 protein plus .1 fat
2. Fatty acid = .46 protein plus .9 fat

One other fact is essential and that is the caloric value of each gram of carbohydrate, protein and fat which is 4, 4 and 9 respectively.

With this information which is compact and essential there are only four steps in figuring a diet for any patient.

First, Knowing your patient's weight and remembering that 1 kilogram is equivalant to 2.2 pounds. Determine the amount of protein desired in grams.

.66 gms. per kilo. if at rest and weight is normal

1 gm. per kilo for moderate exercise

1.5 gm. per kilo, for heavy work or if emaciated.

Second. Next determine caloric need.

20 calories per kilo if at rest
25 calories per kilo it not obese
30 - 35 alories per kilo if active
40 - 50 calories per kilo if very active
80 calories per kilo—children 6-15 years
60 calories per kilo—child 18 years.

Third. Determine total glucose. Remember 1 gm. of protein furnishes ½ as many calories as 1 gm. of fat. Then double gms. of protein and multiply by 9 for 1 gm. of fat furnishes 9 calories. This added to gms. of protein times 4 is equal to number of calories of fat and protein. Then subtract this from total caloric need and this gives the calories to be supplied by carbohydrate. 1 gram of carbohydrate furnishes 4 calories, therefore divide by 4 and get the grams of total glucose.

Fourth. Determine fatty acid — Glucose ratio depending on amount of acidosis and let ratio be .75 - 1.0 or 1.5 and indicate equation as follow $FA||G$ Then by equation (2) $FA = .46\,P$ plus $.9\,F$ you have determined the gms. of fat for your patient.

Knowing total glucose, fat and protein we determine the grams of carbohydrate by equation (1) $G = C$ plus $.58\,P$ plus $.1\,F$

With urine sugar and blood sugar determined on unweighed diet and now a maintainance diet figured, have patient save each 24 hour specimen of urine and weigh his diet accurately. Then test each specimen of urine for sugar and as soon as specimen becomes free of sugar have patient report for a second blood sugar determination. This gives you the renal threshold which is of great importance in handling your case in future months.

Certain factors cause this threshold to change but knowing these you can manage them easily. Infections are most apt to cause a variation in the renal threshold and when infection is present more frequent blood sugar determinations are necessary.

When the renal threshold is normal and your patient has become free of sugar on a weighed diet alone that is sufficient to maintain weight and strength the prognoses is extremely good. These diets can usually be increased to or above normal after the pancreas has responded to the weighed diet and has been given time to resume its normal function.

COMPLICATIONS

Thus far the management of the uncomplicated case of diabetes has been considered and the best method for handling these cases has been outlined, but the more difficult part in diabetic work is recognizing and treating the complications. Formerly coma was one of the greatest horrors of this disease and not until Joslins work was coma considered a preventable accident or an evidence of mismanagement. Today we have at our disposal measures of checking approaching coma and both patient and physician should be alert to the symptoms of its onset. Any change in the patient's demeanor, listlessness, drowsiness, nausea, easy fatigue as well as restlessness excitability, irritability, vertigo, or hyperpnea should be regarded with the greatest suspicion. Patients may become drowsy and gradually go into a comatose state without arousing suspicion.

This history of onset with deep respirations (denoting air hunger) acetone or sweetish odor to the breath, and softness of eyeballs are easily detected and are characteristic of diabetic coma. Dry skin, red tongue and throat with scant urine are other findings. These with the presence of ketone bodies and more or less sugar in the urine are proof positive.

Joslin in his very vivid manner gives a picture of diabetic coma worth repeating. He is really a patient in shock. Here is an individual who has been struggling against odds for hours or days and perhaps for weeks or months. If his disease has been undiagnosed, it is probable that, Sisyphus like, he has tried in vain to replace the 2,000 calories, more or less, lost in the urine as sugar and B-oxybuturic acid, by eating more food, yet because of his high metabolism, which the food has caused, he is stimulated like the toxic thyroid patient to greater and greater exertion until he finally collapses and is forced to bed, and then not to rest but there to be tortured with a gruelling combat for health. The food he has hitherto eaten, nausea forces him to expel; the liquids he has taken he vomits. In his restlessness he throws his clothes. Finally, beaten in this struggle for life, he falls back, helpless, unconscious, with rapid pulse and labored respiration, with a body temperature rapidly falling below normal, with so little liquid in his body that his muscles melt away before the touch, the eyes, soft as jellyfish, the skin parchment dry, the cheeks, which so recently wore the hectic flush of an increased metabolism, now showing slow recovery of the circulation to pressure, and with the blood pressure so low and the flow of blood so feeble that to get a specimen, one may be forced to puncture the jugular, which in contrast to the other veins, is large.''

The presence of acetone and diacetic acid are of such importance in coma and impending coma that we should be familiar with the technic of determining these findings. Undoubtedly as Benedict and Joslin indicate, it is not best to make quantitative estimations of the amount of acetonuria from qualitative tests, but for general work these tests suffice and simply their presence or absence can be a sufficient guide.

ACETONE

Place six (6) drops of urine in a centrifuge tube and add finely divided Ammonium Sulphate crystals to the supersaturation point. Then add a very small amount of powdered Sodium Nitroprusside, which dissolves at once. Next add six (6) drops of Ammonia water. Shake. In presence of large amount of acetone a deep purple color is present. If acetone is slight in amount the purple color is lighter.

All cases of diabetes should have this urine test run frequently for many times impending coma can be detected and the management so altered as to prevent more serious developments. One caution to remember is that if salicylates are being taken, the above test for acetone will give a positive reaction even with acetone absent.

Differential diagnosis of diabetic coma is important and mention is only made of the other forms of unconsciousness before making a positive diagnosis, namely cerebral hemorrhage, uremia, fractured skull and lastly hypoglycemia from insulin. This last confusion is almost inexcusable as its differentiation is quite easy if the above picture of diabetic coma is remembered.

One other complication which has always been so common in diabetes is gangrene and this should always be watched for in elderly diabetics. Cleanliness and care of the feet are of prime importance and the slightest abrasion should secure prompt attention. Other complications which were formerly quite common but with improved care and earlier recognition are rare, need only to be mentioned, retinitis, skin lesion such as furunculosis and dermatitis and cataract.

INSULIN

Most often it has been the complicated cases that have caused the greatest concern and not until recent years with the advent of insulin have the results been encouraging. We all recall the high mortality prior to February, 1922, when a patient developing coma or gangrene usually died, a different chapter is now written and the use of insulin when skillfully used gives miraculous results. Volumes have been written and even now much remains to be studied about this pancreatic extract which is being constantly improved and its mode of action better understood. Insulin, the normal pancreatic secretion is extracted for commercial purposes from the pancreas of certain animals and prepared in standardized unit doses. Insulin should be used in patients who cannot be kept from showing glycosuria and whose blood sugar remains too high and whose health is below normal on a supposedly maintenance diet.

Just briefly we should remember a few salient points about insulin. First it does not cure diabetes. Secondly it does not allow him to eat everything he desires. Again quoting Joslin who says, "it is a remedy primarily for the wise and not for the foolish, be they patient or doctors. Everyone knows it requires brains to live long with diabetes, but to use insulin successfully requires more brains." There are many things to be said regarding the methods used for its early administration. In the uncomplicated cases it seems best to begin with the smaller doses when the patient has failed to become normal on diet alone. Never use insulin on approximated diets for variation is so great that there is certain to be unhappy results sooner or later.

Of course, the amount of insulin used in the beginning of the treatment must be approximated and some variation must attend its use, for each case will show a different response to restricted diet. When insulin is started it is best to place your patient on a maintenance diet and begin with about 5 units at each dose unless the blood sugar is excessively high, in which case there is a corresponding increase in the amount of insulin. If the smaller doses do not reduce the blood sugar fast enough, then you can increase the dosage gradually until normal blood sugars are secured.

Usually at this stage the pancreas begins to resume its function and the insulin in time can be reduced. After the diet and insulin are stabilized the blood sugars need not be run more than every two to four weeks unless some complication such as infection, temperature or shock develops.

Just a word regarding the best method of using insulin in cases of coma. These cases should be given about 15 to 20 units every 30 minutes intramuscularly until some response is noted. If the blood sugar is extremely high the first dose can be given intravenously and at the same time the intramuscular dose given.

If acidosis is marked this can best be combated by proctoclysis of Sodium Bicarb, this serving the double purpose of furnishing fluid to the tissues as well as combating the influence of the acetone bodies. In coma more frequent blood sugar determinations are necessary and great care must be exercised both as to the amount of insulin given and also the amount of glucose administered. These patients should be kept at rest for some time after their return from coma.

To summarize briefly it might be said that the treatment of diabetes is simple and only becomes spectacular when bizarre methods are used or complications arise. The patient is given less food and the insulin if used is slowly increased until the glycosuria disappears. The protein is always kept at a moderate level unless acidosis develop. Fat is increased to make up for the calories eliminated as carbohydrate and ultimately the patient can look forward to more food and less insulin as he returns to normal.

WOMAN'S AUXILIARY NOTES

REPORT TO THE HOUSE OF DELEGATES, KENTUCKY STATE MEDICAL ASSOCIATION

By Mrs. J. T. Reddick, President, Woman's Auxiliary

Mr. President, Members of the House of Delegates, Ladies and Gentlemen:

I bring you greeting from the Woman's Auxiliary, your own organization, that was born at Crab Orchard six years ago. In its infancy it was a feeble child but all children must crawl before they can walk. Now it is beginning to take on strength and venture a few steps.

At Richmond last year we had 314 members representing 18 counties. Today we have 570 members representing 23 counties. We had hoped to especially stress organization this year, and as a steady growth is much more to be desired than high pressure methods, we feel this growth is substantial.

Along with collection of historical data for you, we launched a little pet project of our own at Richmond last fall. Through your courtesy in allowing your wives, mothers and daughters to organize the Auxiliary, it was my very great pleasure to serve as President this last year, and, through this office, to receive an invitation to the unveiling of the statues of Dr. Ephraim McDowell and Henry Clay in Statuary Hall, Washington, D. C., on March 3rd, 1929. It was really Kentucky day, and I was proud to be one of her native daughters. I was like the man emigrating to Kansas in pioneer days. He had a placard on his wagon reading "Kansas or Bust," but in a few months he came back disillusioned, with this placard on his wagon, "Ruther be dead in Kentucky than alive in Kansas."

I was especially pleased to have a Kentucky doctor so honored. As no doctor can make a reputation without a patient on whom to practice, we women think the patient in the case of Dr. McDowell's operation should have a fitting memorial. At that time he had no surgical reputation at stake, while she was giving her life, if necessary, that all womankind might be benefitted by her heroic service, and so we started a fund at Richmond to be known as the Jane Todd Crawford Memorial, there being in the fund now, $214.78 We presented this in our report to the American Medical Association Auxiliary at Portland this year, and while they did not feel strong enough to take this up as a body, they left it to each state to do what they could. Mrs. McCormack presented it to the Southern Medical Association last fall at Asheville.

This is a memorial to a woman by women, and was initiated, and thus far promoted, by the members of the Kentucky Auxiliary. We will appreciate donations from every doctor's wife. We want to retain the name of each donor and now, that the project has been definitely launched by your Auxiliary, we hope to be able to interest every woman's organization. We hardly know what form the memorial will eventually take; maybe a room or building to house your historical material in the form of a Medical Museum.

We have sent out three hundred letters and visited and helped reorganize two county Auxiliaries. This organization can foster good fellowship among doctors' families. Your wives are glorified telephone girls, but to leave that occasionally and mix with other doctors' wives is to find much fellow feeling.

One educational feature of our work this year was broadcasting health talks from Louisville, which we found interesting and profitable. During the year we have been able through the courtesy of the United States Public Health Service and the State Board of Health to send out a study course to the Auxiliaries in our state and copies to the Southern and American Medical Association Auxiliaries. Mrs. Brawner, President-Elect of the Southern Medical Auxiliary, asked the privilege of distributing it in the other Southern States. This we granted with the understanding that they make such modifications as would be necessary to suit their state laws.

Mrs. Bunce, President of the American Medical Association Auxiliary wrote, "I am simply enchanted with your study course. I think it is one of the most progressive works that any Auxiliary has undertaken at this time. Allow me to congratulate you and your Auxiliary on the wonderful co-operation which is now existing and has always existed between the doctors and their wives." I have sent the extra copies out to the states which are not so fortunate and the procedure is proving a sort of missionary work. I herewith present you copies for your records.

We want to thank each one who has helped us in any way to make this a successful year, and especially do we want to thank our Advisory Board, Dr. A. T. McCormack, Dr. V. A. Stilley and Dr. W. E. Gardner. Dr. McCormack has been especially helpful.

As you well know the American Medical Association has asked the Auxiliary in the several states to take, as one special project the securing of subscriptions for Hygeia. Unfortunately, Kentucky has too few subscribers to Hygeia. Many of these subscribers come from the laity, who have learned the value of authentic medical facts and health teaching. Every physician should have a copy of Hygeia on his office table where waiting patients may fix in their minds many medical facts the doctor has attempted to plant there. Subscriptions have increased in Kentucky as you can see by referring to the Auditor's report of our Treasurer in the October Journal.

We bespeak for our incoming President the same hearty co-operation which has been accorded us and we hope each county here represented will go home determined to have a Woman's Auxiliary to their Medical Society. I wish that each doctor in Kentucky may so live that when he comes to the end of his service he can say like Carrie Jacobs Bond. Right here, may I interrupt myself to tell you a little about Carrie Jacobs Bond. I think doctors love their families as much as other men and yet many die and leave their families in need. Carrie Jacobs Bond was left a doctor's widow with a frail body, a boy baby to rear and no means of support. She had a gift for writing verses and setting them to music. Her friends would have her sing them in their drawing rooms, and they would pay her a small sum for the entertainment of their friends. Later a friend gave her a trip to Riverside, California and drove her on top of Robideaux mountain. You who have stood there know the beauty of the view where one feels as Moses must have felt when the Lord took him upon the mountain and let him view the Promised Land. Then they drove down to the romantic Mission Inn with its chimes and beautiful Spanish architecture. That evening she wrote a verse for her friend and gave it to her at dinner. It was the first verse of "A Perfect Day."

"When you come to the end of a perfect day,
And sit alone with your thoughts,
While the chimes ring out with a carol gay,
For the thoughts that the day has brought,
Can you think what the end of a perfect day,
Can mean to a tired heart?
While the sun goes down in a flaming ray,
And dear friends have to part."

Her son, quite grown-up said, "Mother I think you have written a success," and asked her to write another verse. So, she wrote,

"Well, this is the end of a perfect day,
Near the end of a journey too,
And we find the thought that is big and strong
With a heart that is fond and true,
For memory has painted this perfect day, in colors that never fade,
And we find at the end of a perfect day,
The soul of a friend we've made.

Today Carrie Jacobs Bond is rounding out her life in her own home, won by her own efforts, with her son and grandchildren, in California, and a few short months ago she wrote this prayer, which I repeat. I wish each doctor in Kentucky may so live that when he comes to the end of his service he can say like Carrie Jacobs Bond,

Dear God you are so good to me,
To give me all earth's beauty free,
The birds to sing through all my life,
The flowers to bloom on paths of strife,
A mountain side on which to roam,
A little path to lead me home,
A sky of every shade and hue,
And then dear God to give me you.

AT THE SOUTHERN

By Mrs. J. W. Sams

The Annual Meeting of the Southern Medical Association was held at Miami, Florida, November 19-20. The attendance was most gratifying A large number from Kentucky arrived early and stayed throughout the proceedings.

The entertainment provided was delightful. Motorcades over perfect roads with tropical beauty on every hand gave opportunity to see the delights of this superb playground. One motorcade included a visit to a Seminole Indian Reservation. Bathing and beach parties were enjoyed by many, fishing and sailing parties by a few who could find time for these joys. A turtle steak and fish fry dinner was served by in Dade County Medical Society at Sunny Isles Casino at Miami Beach, a bountiful repast, for all the visiting guests. A charming musicale was given on the porch of "Homewood," the magnificent home of Dr. James M. Jackson. Seats for the guests were placed on the beautiful lawn which slopes gently down to the bay. Following the Musicale, Mrs. Thomas W. Hutson and Mrs. Byron S. Freeland, daughters of Dr. Jackson, proved charming hostesses at the reception and tea held in the spacious rooms of the delightful home. An evening at the Civic Theatre waa reserved for the Auxiliary and all enjoyed a good presentation of the New York success, "The Butter and Egg Man." An outdoor luncheon served in the Plaza of the Roney Plaza Hotel was a happy occasion. The President's Reception and Ball was a brilliant affair at the Coral Gables Country Club. The Patio was a veritable gem of Fairyland. Here, red, blue, and green lights, strung between the palm trees, swayed with the breeze as though keeping time to the musical rustle of the leaves, while the young moon smiled knowingly down upon the colorful scene and the gaiety of the dancers.

Perhaps, the most outstanding event for many of the Kentuckians was the first public meeting, the President's night session. This was held in Bayfront Park, a beautiful outdoor theatre where the palm trees softly rustle a salute to the sail boats and other passing water craft on the nearby waters of the bay. Amid these exotic surroundings it was thrilling to listen to the Presidential address of Dr. Thomas W. Moore. His subject was "A Tribute to a Southern Physician" and our own Dr. Ephraim McDowell was his theme. Incidently, Dr. Moore called attention to the fact that although Dr. McDowell has been honored with a memorial and that various medical groups have taken his name, no memorial has, as yet, been raised in honor of the brave woman, Jane Todd Crawford, who, by submitting her own body to the experiment, made possible, the epochal success of Dr. McDowell.

The sixth annual meeting of the Woman's Auxiliary to the Southern Medical Association was held Wednesday, November 20th, at 9:00 a. m., on the Mezzanine floor of the Columbus Hotel, Miami, Florida. The meeting was called to order by Mrs. Arthur Walters, of Miami, president of the local Auxiliary. The Rev. Everett Smith, Miami, delivered the invocation, Mrs. C. E. Dunnaway, Miami, delivered the welcome address and Mrs Mozart Lischkoff, Pensacola, Florida, State President brought greetings from the state.

Mrs. C. W. Garrison, Little Rock, Arkansas, President, was introduced and presented Mrs. A. T. McCormack, Louisville, Kentucky, who responded to the address of welcome. After the reading and approval of the minutes of the Asheville, North Carolina meeting of 1928, by the Secretary, Mrs. J. W. Sams, Crestwood, Kentucky, Mrs. C. W. Garrison introduced Mr. Loranz, Secretary and Manager of the Southern Medical Association, who in turn presented Dr. Ringer, Asheville, N. C., First Vice-President to the Southern Medical Association. Dr. William Gary Morgan, Washington, D. C., President-Elect of the American Medical Association, and Dr. Frances Fernandez, of Cuba, President of the Academy of Science and Secretary of Sanitation for the Republic of Cuba.

Dr. Ringer brought greetings from the Southern Medical Association in behalf of Dr. Thomas W. Moore, Huntington, W. Va., President.

Dr. William Gary Morgan, addressed the members briefy on the importance of the two organizations co-operating, and Dr. Fernandez said he considered it a real privilege to be present at the Auxiliary in Miami, and brought regrets for the absence of Mrs. Fernandez, saying she was Director Pro-Tem at a Health Conference then being held in Cuba. He extended a cordial invitation for Luncheon at his home on Sunday for all those going to Cuba.

Reports were received from the following officers and chairmen of committee. Mrs. C. W. Garrison, President; Mrs. J. N. Brawner, President-Elect and Publicity chairman; Mrs. J. W. Sams, Secretary; Mrs. D. A. Rhinehart, Corresponding Secretary; Mrs. Edward Clay Mitchell, Treasurer; Mrs. A. T. McCormack, Historian and Scrap Book chairman, Mrs. S. A. Collum, reported the organization of the State of Louisiana, with Mrs. Oscar Dowling, New Orleans, as State President. Mrs. Southgate Leigh,, Parlimentarian, recommended changes in Articles, 3, 6 and 10, of the Constitution and By-Laws. These were adopted. Mrs. E. H. Cary, Dallas, Texas, Chairman of the nominating committee, reported the following nominations, these nominees being unanimously elected:

Mrs. J. N. Brawner, Atlanta, Ga., President.

Mrs. S. A. Collins, Texarkana, Texas, President-Elect.

Mrs. Arthur Walters, Miami, Fla., First Vice-President.

Mrs. Edward Clay Mitchell, Memphis, Tenn., Second Vice-President.

Mrs. H. W. E. Walthers, New Orleans, La., Recording Secretary.

Mrs. C. W. Roberts, Atlanta, Ga., Corresponding Secretary.

Mrs. W. W. Crawford, Hattiesburg, Miss., Treasurer.

Parlimentarian, to be appointed by the President.

Mrs. A. T. McCormack, Louisville, Ky., was appointed Historian.

Mrs. J. N. Brawner was installed as President and accepted the honors and the responsibilities of the office and pledged her very best efforts to the support of the Auxiliary. Mrs. C. W. Garrison than presented her with the gavel and the newly elected officers were introduced.

Mrs. Seale Harris, Birmingham, Ala., and Mrs. S. C. Red, Houston, Texas, honor guests of the Southern Medical Auxiliary, congratulated the Auxiliaries of the different states on the wonderful work being done by them.

Greetings and regrets were read from Mrs. Allen Bunce, Atlanta, Ga., and Mrs. John O. McReynolds, Houston, Texas.

The meeting adjourned for a delightful luncheon on the roof garden of the Columbus Hotel. The roof was beautifully decorated with tropical flowers furnished by the Dade County Auxiliary. Dr. Harris, Birmingham, Ala., addressed the members on "The Woman's Auxiliary and Nutritional Clinics" and Mrs. S. C. Red, told of her experience in the organization of the Auxiliary.

The meeting was then adjourned until the next annual meeting of the Southern Medical Association which will be held in Louisville, November, 1930, when the Jefferson County Auxiliary will be the hostess organization, and we, throughout the State, will endeavor to lend every assistance to prove the sincerity of our welcome for these distinguished guests who honor us by bringing the Southern Medical Association to Kentucky.

JEFFERSON COUNTY MEETING

Those members of the Woman's Auxiliary, Jefferson County Medical Society, who were not present at the luncheon, on December 4, 1929, missed one of the most delightful affairs of the season. It was held in the Crystal Ballroom at the Brown Hotel and had all the prerequisites of a perfect luncheon.

The decorations of Christmas wreaths and lighted candles lent a festive air and Mrs. Hildred Morrow, accompanied by Mrs. Sidney J.

Meyers, sang a group of songs for us in a lovely lilting voice. Dr. G. A. Hendon was the speaker. His subject was "Unprofessional Aids to the Medical Profession," the masterpiece of a speaker, whose every speak is oratory.

Mrs. P. E. Blackerby, the president of the State Auxiliary, spoke to us briefly as well as other more distinguished members of our group. A letter was read from the City Hospital asking us for a Christmas party for the Psycopathic ward. Funds were voted and it was turned over to the Hospital Committee.

We adjourned, feeling we had been filled aesthetically, physically and mentally.

MRS. R. L. M'CORMACK, Secretary.

MARSHALL COUNTY REPORT

The Woman's Auxiliary to the Marshall County Medical Society held only one regular meeting in the past year, because of the almost impossible conditions of the roads. Nevertheless, we were all the time considering ourselves a unit and keeping in touch with each other by telephone and other ways, making plans for work we hoped to do.

Mrs. J. T. Reddick, our President was present at this meeting and after her inspirational talk, Mrs. H. H. Jones, whose father was a physician, said that she was convinced that this organization was more deserving of her time and efforts than any other in our little city. Because of her enthusiasm and interest in the work she was made Secretary of the County Auxiliary.

Mrs. V. A. Stilley, Benton, our Historian, added one name to her History of Pioneer Doctors, that of Dr. E. C. Dyens.

"A History of Pioneer Doctors" and some achievements in Public Health were presented by Mrs. V. A. Stilley, and "Some Achievements of Modern Medicine" by Mrs. L. L. Washburn.

Members of the Auxiliary gave talks before the Mothers Club each month on proper diet and diseases of children and placed Hygeia in the hands of all the mothers.

We sent $7 to the State Treasurer and $7 to the Jane Todd Memorial Fund. Two of our members visited the neighboring Auxiliary of Calloway county.

We have lost one member, Mrs. E. G. Thomas, one of the first to become interested in this work that the women of our State are undertaking. On the day of her passing, she expressed her faith in this great work and her belief in its possibilities, and paid her dues for the coming year

Respectfully submitted,
MRS. L. L. WASHBURN,
President, Marshall County Auxiliary

NEWS ITEMS

THE TRUE STORY OF ACTEROL

Chemists call it by its correct chemical name, solution activated ergosterol,—the name by which Mead-Johnson & Company first supplied it. (1) The largest manufacturer of rare sterols in America, early having activated cholesterol (2) (1925), being first to commercially produce pure ergosterol (3) and to standardize activated ergosteral (1,4) (October, 1927), seeking to protect themselves and the medical profession against substitution, Mead Johnson & Company coined the name Acterol,—signifying activated ergosterol. The Council on Pharmacy subsequently coined a name, Vioeterol. As servants of the American Medical Profession, this Compnay cheerfully defers to its wishes and now call its product Mead's Viosterol in Oil, 100 D. The product remains the same; only the name is changed.

References

(1) J. Biol. Chem., 76:2. (2,4) Ibid., 66:451. Ibid., 80:15. Ibid., 76:251.

Dr. Churchill Robertson, who for a little more than four years has been associated with Dr. Everett E. Watson at Mount Regis Sanatorium, Salem, Va., is now located at the Philadelphia General Hospital, Philadelphia, Pa., as assistant resident physician. Dr. Robertson is taking a special course in heart and after the completion of this course, he expects to limit his work to diseases of the heart and lungs.

Dr. Joseph S. Parker announces that he is engaged in the General Practice of Medicine, with offices at 335 Francis Building, Louisville. Office Phone: City 5779. Residence Phone: Shawnee 5746. Hours: 1 to 3 p. m.

Dr. J. Andrew Bowen announces the opening of his office, 714 Heyburn Building, Louisville. Practice limited to Urology. Hours: 12-2 and 3:30-5. Telephone: City 116.

Dr. J. E. K. Flannagan, of the class of 1925, University of Virginia, and for several years, a member of the staff of Catawba Sanatorium, is now associated with Dr. Everett E. Watson at Mount Regis Sanatorium. Dr. Flannagan spent several months during the summer at Trudesu Sanatorium, Saranac Lake, N. Y., in study and clinical research, and came to Mount Regis December 1st.

Kentucky Medical Journal
Published Monthly By
THE KENTUCKY MEDICAL JOURNAL
Incorporated

Entered as second class matter October 22 1906, at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price $5.00
Edited Under Supervision of the Council

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COUNTY SOCIETY REPORTS

Scott: The proposition of the State Health Department to make Scott County the center of Eastern Kentucky for a school of instruction in maternity and child welfare was formally accepted by the Scott County Medical Society at the regular meeting held December 5th, at the Garth City School, with a delightful dinner.

The plan which was presented by Dr. A. T. McCormack, secretary of the State Board of Health and secretary of the State Medical Society; Dr. P. E. Blackerby, assistant to Dr. McCormack, and Dr. Annie Veech, head of the maternal and child welfare in Kentucky is for the school, which will begin January 1 and continue for a period of at least six months, to be under the direction of the state health department, represented by Dr. Veech and financed by the Rockefeller Endowment for Public Health. Assisting will be a woman physician, who will be a maternity and child specialist and an added nurse.

The work will be done in co-operation with the Scott County Health Department. There will also be a committee of three appointed from each of the civic organizations in Georgetown and Scott County to assist in carrying out the program. The committee appointed last meeting from the Scott County Medical Society, by the president is composed of Dr. H. V. Johnson, Dr. W. S. Allphin and Dr. L. L. Cull.

To this school health officers and nurses and other doctors and nurses and other doctors and persons throughout Eastern Kentucky, who are interested in child welfare, will come to observe the methods of the school and plans for constructive health measures along these particular lines. Visiting doctors present at the meeting, each of whom made a short talk commending the work of the Scott County Health Department, were Drs. Estill, Vance, Minish, Daugherty, Orr. Others who had part on the program were Mrs. Leland W. Meyer, representing the Georgetown Woman's Club, of which she is president; County Judge J. T. Lancaster, M. S. Bradley, Warner Haynes, Commissioners Ed Graves, Geo. L. Mulberry, C. B. Ireland.

At the business session of the society, with Dr. J. W. Baird presiding, the following officers were elected for the coming year: Dr. E. A. Anderson, president; Dr. W. S. Allphin, vice-president; Dr. A. Stewart, secretary-treasurer; Dr. H. V. Johnson, delegate to state convention, with Dr. L. F. Heath, alternate, censors, Dr. S. S. Amerson, one year; Dr P. H. Crutchfield, two years; Dr. H. H. Roberts, three years. Members of society present: Drs. Anderson, Baird, Sanford, Johnson, Crutchfield, Cull, Heath, Amerson, Allphin and Stewart. Dues collected for the evening, $50.00 No other business, meeting closed.

A. STEWART, Secretary.

EULOGY, DR. S. J. HARRIS*

By D. M. Griffith, Owensboro

Many men labor on to the end, participating in the activity and progress of their calling almost to the last. Others retire in the fullness of years and success to a well deserved life of leisure. Among those who traveled life's road to the end was a doctor, of distinction, who died recently at Philpot, Ky.

Dr. S. J. Harris made his place long ago in the world of Daviess County, as one of its great and just citizens. He taught the people of Philpot many fine lessons of truth and honor, and like all good doctors, he ministered unto the many. He practiced patriotically his profession and left in his daily rounds the message of the Master.

The goal of his life was service in this world and salvation in the next. No man could have done and died more nobly. He died as he lived—always the professional crusader.

He was a most aggressive and active doctor to the end. He was a man of action rather than words. He was always up and doing. His inspiration was activity not contemplation; his achievement was in doing not in delay, and his success in life was based on the philosophy of experience being more enlightening than argument.

He had an individuality all his own: he believed in the axion that true happiness is best found in labor; he performed his work with absorbing enthusiasm, and enjoyed a richness of life seldom seen in this actively progressive age.

He was more than a doctor of the body, he was a doctor of the soul. He had his religious views and maintained them, but he forced not its dogma on others. He was always a most courteous and dependable colleague, and among those who had his friendship he engendered real affection. It will, indeed, be a long time before the profession of Daviess County will see a finer Christian physician.

He had that wonderful quality of true manhood, the quality of understanding. He was ever conscious of the demands which his profession made upon its votaries. He saw his patient as a human being rather than as a medical case, and it was his earnest endeavor to give his patient the best of his knowledge and his talent.

He was possessed of great refinement both in thought and action. He abhorred course conversation, and to be in his home, one felt the effect of family refinement, something beyond the ordinary home, and enjoyed a conversation not to be found under ordinary roofs; because he moved in a circle made up of people distinguished for their good traits and the things they did rather than for their wealth.

He was a man in whose heart, clean and honest love for his fellowman ever held sway. He was a doctor whose desire for the relief of human suffering was first in his thoughts, and it was never obscured by personal ambition. There was less of the sentiment of selfishness about Dr. Harris than any man of my acquaintance.

Great as was his glory in the charge of Pickett, yet greater still was his glory in his work among the sick. Quietly and modestly he walked the way of his Nazarene path: relieving the pain of his patients; soothing the suffering of those that sorrowed; giving generously of his own meager means to the man in need until his influence in his community was almost divine in its benevolence, and the plain and proud alike in his neighborhood held him in their hearts as more than human.

Though an old man he was happy. The years had touched him with a gentleness that made him the envy of all. He had learned the great philosophy. He believed with Milton that even if youth passes—a Paradise lost—there may be a Paradise regained, and he retained to a remarkable degree that conception through all the years.

The best tribute I can pay him is; that he was a Christian gentleman, a most estimable man and an extremely good doctor. He lived up to the highest degree, to the lines of Lindsay Gordon.

> Life is mostly froth and bubbles,
> Two things stand as stone:
> Kindness in anothers trouble,
> Courage in your own.

He was a stimulus to many men who are today active and successful doctors of Daviess County, and his life will be an inspiration to the young of tomorrow; because there is no influence like the work and the faith of a real man who loves a great calling greatly.

He came to his peace at last, with joy in his heart, for verily he knew the Lord was with him and he feared no evil.

---

*Read before the Daviess County Medical Society.

Floyd: On October 25th at the Stumbo Hospital, Martin, Ky., several physicians of this county met and organized the Floyd County Medical Society.

Those present were as follows: Dr. W. L. Stumbo, Martin; Dr. O. T. Stephens, Prestonsburg; Dr. Marvin Ransdall, Prestonburg; Dr. B. S. Mayo, Martin; Dr. M. V. Wicker, Wayland; Dr. J. W. Bailey, Wheelwright; Dr. T. J. Chandler, Lackey; Dr. M. M. Collins, Lackey; Dr. M. P. Weems, Auxier, Dr. W. D. Osborne, Burton; Dr. E. L. Clay, Garrett; Dr. E. E. Martin, Allen.

Officers elected:

M. V. Wicker, President.

O. T. Stephens, First Vice-President.

M. M. Collins, Second Vice-President.

E. E. Martin, Secretary-Treasurer.

Our next meeting will be held on the fourth Wednesday in November and we hope to have other physicians of the county present.

E. E. MARTIN, Secretary.

Jefferson: The 615th stated meeting of the Jefferson County Medical Society was held in the City Hospital, Monday evening, December 2, 1929. Business session began promptly at 7:45 p. m. After that the following program was carried out:

Case Reports

Traumatic Cyanosis—Dr. D. P. Hall.

Hypertensive Heart Disease without Hypertention; Report of Cases—Dr. Emmet F. Horine and Morris M. Weiss.

Address

Distribution of Nurses in the State of Kentucky—Miss Myrtle Applegate, R. N.

F. M. STITES, Secretary.

Floyd: The recently organized Floyd County Medical Society held its second meeting Wednesday afternoon, convening here at the Valley Inn.

The business session began immediately afternoon when the doctors enjoyed luncheon at the Valley Inn. Dr. M. V. Wicker, president, presided at the meeting. After the business session was concluded, Dr. Marvin Ransdall, director of the Floyd county health department, read an interesting paper on "Prevention of Diseases." Dr. Ransdell's paper was briefly discussed by Dr. Basil Mayo, Dr. W. L. Stumbo and Dr. E. E. Martin.

The next meeting of the Medical Society will be held at the Beaver Valley Hospital, Saturday, December 14, when a free clinic for removal of tonsils will be held.

Attending Wednesday's meeting were: Dr. M. V. Wicker, Wayland; Dr. W. L. Stumbo and Dr. Basil S. Mayo Martin; Dr. H. G. Claypool, Wheelwright; Dr. M. P. Weens, Auxier; Dr. E. E. Martin, Allen; Dr. O. T. Stephens and Dr. Marvin Ransdall, Prestonburg.

BOOK REVIEWS

PATHOGENIC MICROORGANISMS—A Practical Manual for Students, Physicians and Health Officers. By William Hallock Park, M. D., Professor of Bacteriology and Hygiene, University and Bellevue Hospital Medical College; Director, Bureau of Laboratories, Department of Health, New York City. Anna Wessels Williams, M. D., Assistant Director, Bureau of Laboratories, Department of Health, and Charles Krumwiede, M. D., Assistant Director, Bureau of Laboratories; Associate Professor of Bacteriology and Hygiene, University and Bellevue Hospital Medical College. Octavo, 819 pages, with 216 engravings and 9 full page plates. Cloth, $6.50, net. New Ninth Edition, enlarged and thoroughly revised. Lea and Febiger, Washington Square, Philadelphia, publishers.

Again the many additions to the science of bacteriology during the past three years has necessitated a very extensive revision of this well-known text. Many parts of the book have been completely rewritten. The sections on Immunity have been amplified. The experience of the authors to date with active Immunization against Diphtheria and Scarlet Fever is given. Not only are the immediate practical results emphasized, but also those observations which bear on the general problems of Immunity.

Work done at the Bureau of Laboratories, Department of Health, New York City, as well as work done co-operatively with other laboratories has given to the authors considerable further knowledge as to the probable value of certain serums and vaccines. These results also have been added to the text in this new edition. The chapters on the Pyogenic Cocci, on the Paratyphoid Bacilli, and on the Pneumococci have been practically rewritten.

Recent additions to knowledge of Scarlet Fever, Measles, Yellow Fever, Undulant Fever, Tularemia, etc., have received due attention. The chapter dealing with Pneumococci has been enlarged to include the new types. The chapter on Complement Fixation has been fully revised and the details regarding the newer Precipitin tests, especially those of Kahn, Kline and Meinicke, are added.

The bibliography has been enlarged and a special effort has been made to give those references which cover all the essential advances during the last few years. The comprehensive summary table has been continued and revised, since many have expressed appreciation of its value. This table gives the essential characters of, and pathological conditions caused by each of the commoner microorganisms. The teaching experience of the authors has suggested the need of the student for such means of orientation.

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KENTUCKY MEDICAL JOURNAL

Being the Journal of the Kentucky State Medical Association
Published Monthly under Supervision of the Council
Editorial and Business Office, Corner State and Twelfth Streets. Subscription Price, $5.00 Single Copy, 50 cents
Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 8, 1917, authorized May 25, 1920.

VOL. XXVIII. BOWLING GREEN, KY., FEBRUARY, 1930 No. 2

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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. XXVIII. BOWLING GREEN, KY., FEBRUARY, 1930 No. 2

EDITORIAL

THE OFFICIAL MINUTES

This issue of the JOURNAL contains the full proceedings of the Scientific Session and the House of Delegates. Every County Society in the State should study this with the Annual Number of the JOURNAL, which contains the report of all the officers and the detailed financial statement of all the expenditures of the Association, these are published by voucher checks so that every member can fully understand how the funds are expended. The Kentucky State Medical Association is conducted along the old-fashioned lines of a purely representative government, which is fast passing out of existence; no authority in this organization is relegated to commissions or bureaus. These delegates are the real power of the Association and in them is placed the authority of conducting the affairs of this body. The Commonwealth of Kentucky has entrusted to them, as well as to the representatives of other medical associations of different systems, the authority to select those men who will carry out the laws pertaining to our public health and welfare: never in all the history of our organization were so many members present, even to the last day of the meeting, and we can truthfully say that all the policies adopted by the House of Delegates of the Association really represent the rank and file of the entire profession.

The 1930 Session will be held at the Western State Normal School, Bowling Green, Kentucky, a lovely little city endeared to the hearts of every doctor in the United States, as it was here that our beloved Dr. J. N. McCormack lived and fought his battles for the health and lives of the people of Kentucky. During this meeting we shall dedicate again our Association for the promotion of better health and the prolongation of life, to the end that our citizenship may have greater happiness and increased capacity for service and productiveness.

WORKMEN'S COMPENSATION ACT

It has long been recognized that the existing Workmen's Compensation Law in Kentucky is antiquated. Shortly after its enactment the allowance for medical service was found to be entirely inadequate except in relatively minor injuries not requiring hospitalization. Now that the purchasing power of the dollar is less than half of what it was when the law went into effect the injustice is magnified.

The Workmen's Compensation Law is to be revised during the Session of the State Legislature now convened. The wholly inadequate medical provisions cannot be longer tolerated. Not only must we, as physicians, enter this fight from personal motives but we should also remember that the Hospitals and the nurses must be supported in their efforts to secure justice.

The present law arbitrarily allows $200.00 only as the maximum sum to be expended for all medical services (hospitalization, nursing, drugs, dressings, x-ray examinations, anesthetists, surgeons fees, etc.) When the injuries are sufficiently severe as to require the average amount of hospital attention it is safe to say that in over ninety per cent of the cases the $200.00 allowance for medical services is insufficient. Therefore, in over ninety per cent of hospitalized compensation cases a part and often a large part of the burden of rehabilitation is thrown upon the medical service and not upon the employer who should be responsible.

It is conservatively estimated that the hospitals of the state lose more than one hundred thousand dollars annually through the provisions of the law which permit proration of their charges. The physicians of the state probably lose an equal or even larger sum while the nurses undoubtedly lose a substantial amount.

There is no justice in a situation which throws such a burden upon those dispensing medical service in preference to the industry in which the accident occurred. We do not share in the profits made in the industry and, therefore, we should certainly not be compelled to bear its losses. An unlimited medical allowance should be written in the new law.

The situation has grown so acute in Louisville that every hospital in the city has signified its intention of notifying all physicians sending patients injured in industrial accidents and coming under the jurisdiction of the Workmen's Compensation Act of Kentucky, that unless the employer or his insurance carrier guarantees in writing the payment of the costs of caring for the patient, admittance to the hospital will be refused. Such a drastic step was not taken until after due consideration and not until it was found that other courses were ineffectual. Hospitals all over the state will undoubtedly adopt a similar procedure in protecting themselves under the existing discriminatory law.

When the Workmen's Compensation Board awakens to a full realization of the significance of the steps being taken by the hospitals to protect themselves, a just modification of the medical provisions of the law may be expected. In justice to the injured employee as well as to those rendering the various medical services an unlimited sum should be allowed for rehabilitation. The Legislative Committee of the Jefferson County Medical Society has made a thorough study of the whole situation and has insisted that the only just provision would be unlimited medical compensation. In the event that the Compensation Board's recommendation to the Legislature concerning allowances for medical services is deemed inadequate the Jefferson County Medical Society and the hospitals of Louisville are determined to go directly to the floor of the Legislature and demand justice. We are sure we may count on the full assistance of every member of the Kentucky State Medical Association since our interests are identical.

EMMET F. HORINE.

WIDAL MEMORIAL

There is at present a movement well under way to perpetuate the memory of Professor Fernand Widal. The Committee for the Commemoration intends:

1st. To erect a monument to his memory.

2nd. To place a memorial plaque in the School of Medicine and in the Cochin Hospital.

3rd. To collect his principal works in a special edition.

The French Committee is composed of the most prominent French scientists, a group of public officials headed by the President of the Republic, the Professors of the Faculty of Medicine, of Paris, and a group of Widal's personal friends and pupils.

Dr. Wm. S. Thayer, recent President of the American Medical Association is the moving spirit behind the project in this country. He has appointed representatives in various sections throughout the country to assist him in the raising of funds.

"Subscription of 100 francs will entitle the donor to the medal. Any subscription above 300 francs entitles the donor to the medal and the edition of his works." Roughly speaking this means that anyone who contributes to the fund over $4.00 will receive a copy of the medal and if over $12.00 will receive in addition to the medal a copy of the collected works of Professor Widal. This will in a way give every doctor the opportunity of personally expressing his appreciation of the work of one of the great modern scientists, a real benefactor to mankind; whose name and famous test are in use daily in all hospitals throughout the civilized world.

Dr. Thayer has appointed Dr. Morris Flexner, 619 Heyburn Building, Louisville, Ky., his local representative. Dr. Flexner is anxious for Kentucky doctors to make an excellent showing and with this in view earnestly solicits their support for a memorial well earned and deserved.

JEFFERSON COUNTY MEDICAL SOCIETY

The Jefferson County Medical Society desires to cordially invite all visiting physicians to its meetings. The sessions are held regularly in the amphitheatre of the Louisville City Hospital at 7:45 P. M., on the first and third Monday of each month. A varied program may be expected consisting of two or more case reports, exhibition of patients and either an essay or a symposium.

Not only are visiting physicians welcome to attend any and all meetings but they may feel at liberty to take part in the discussions. This is a standing invitation not only to come but also to take part in any of the meetings during the year.

Beginning with this issue of the JOURNAL the advance programs of the Jefferson County Medical Society will be regularly published. Please turn to the County Society Section in this issue and you will find the full program for February.

Progress in Prevention of Deafness—Horace Newhart, Minneapolis (Journal A. M. A., Oct. 12, 1929), concludes that the periodic testing of the hearing acuity of school children with the audiometer, by revealing the early loss of hearing, is at the present time the most effective means of initiating measures for the prevention of deafness and the conservation of hearing among school children. The greatest need of the movement. now well under way, is the interest, active co-operation and leadership of the physicians, especially the otolaryngologist. The movement would be greatly expedited by the inauguration of a well directed campaign of publicity calling attention to the value of periodic hearing tests and to the possibilities of the prevention of deafness.

SCIENTIFIC EDITORIAL

DIFFERENTIATION OF CATHARRHAL AND OBSTRUCTIVE JAUNDICE

Recently I had the pleasure of hearing Dr. John A. Killian, of New York, give a discussion on the modern scientific study of liver function. This talk was of such great value to the profession at large and so practical that I thought I could not do better than to try to set forth in this short article the most important points that he considered.

The differentation of catarrhal jaundice and actual obstruction at times causes a serious difficulty with resulting delays that often bring about marked degeneration in the liver cells before active procedures are taken to relieve the condition. With the present scientific differentation there is little difficulty in coming to a conclusion at once and also in determining, to a great extent, what damage has already been done to the liver itself.

Dr. Killian regards four tests as being of most practical value. Three of these are blood stduies and the fourth is a urinary test. The former composes the icterus index, which is an estimation of the bilirubin; the quantity of bile acids in the blood; and lastly, the presence and quantity of cholesterol. The urinary test is for the determination of the presence and quantity of urobiligen.

In catarrhal jaundice, urobiligen is constant in the urine and appears very early in the disease even before there is a decided increase in the icterus index.

In obstructive jaundice, the icterus index is increased, the bile acids and cholesterol appear in the blood, but the urine is negative for urobiligen. Cholesterol never appears in the blood in catarrhal jaundice.

This affords a very simple differentiation. If one has urobiligen in the urine with no cholesterol in the blood, there is no organic obstruction. If cholesterol appears in the blood with no urobiligen in the urine, there is organic obstruction.

These tests are not difficult to make and can be easily carried out in any laboratory equipped for making ordinary urine examinations. They are of the greatest possible value, as can readily be seen, as one is not only prepared to make a quick and positive diagnosis but one is also in a position to determine to a great extent the severity of degeneration in the liver cells and to take proper steps for preparing the patient for an operative procedure.

Of course, death in serious liver diseases comes about from acidosis that is produced by the bile acids and it has been found that the administration of glucose for forty-eight hours before the operation, lessens most decidedly the acidotic condition, and consequently the danger. This glucose should be administered preferably, according to the opinion of Dr. Killian, by hypodermoclysis or through the duodenal tube, without the use of any insulin.

R. HAYES DAVIS, M. D.

OFFICIAL ANNOUNCEMENTS

Official Minutes of the Seventy-Ninth Annual Scientific Sessions of the Kentucky State Medical Association Held in Louisville, October 22, 23, 24, 1929.

FIRST SCIENTIFIC SESSION

TUESDAY MORNING, OCTOBER 22

The opening session of the Seventy-ninth Annual Meeting of the Kentucky State Medical Association held, in the Brown Hotel, Louisville, Kentucky, October 22-24, 1929, was called to order at nine twenty-five o'clock, Dr. J. H. Blackburn, of Bowling Green, President of the Association, presiding.

PRESIDENT BLACKBURN: The house will come to order, gentlemen.

I believe Dr. Sampey is here. We will ask you to stand while the Reverend J. R. Sampey delivers the invocation.

REVEREND J. R. SAMPEY: I thank Thee, our Father in Heaven, for the revelation of things in nature as well as in divine revelation. We thank Thee for the laws Thou hast put in physical nature, in our minds, in our souls.

We recognize Thee as our God and Father, and we come to Thee for wisdom, for guidance; we come to Thee for inspiration.

We pray Thy blessing upon the sessions of this group of leaders in all the communities of our state. We pray that Thou wilt grant them wisdom in their conferences together, that they may learn one from another the secrets of nature, as the secrets of nature have been revealed to one may be communicated to others for the benefit of mankind. We pray that these, Thy servants, may have a high appreciation of the opportunities of their calling, of the possibilities of the ministry to our fellowmen who are bound up with them and with their profession.

We pray that Thou wilt deal wisdom in research in the men of the laboratories that they may discover the secrets, may learn the laws that Thou art author of, and learning these laws may help us, the laymen of the world, in our bodies and our minds.

And we pray that these men in their relations with each other and with all other men may accept the Golden Rule of the Great One who gave Himself for us, and thus living they may be leaders not only in conserving the health of our great commonwealth but conserve its mental health as well as its bodily health, and its spiritual life. We pray that they may give us more and more sound bodies, sound and sane minds and pure souls, and that their touch in the home and in every section of society may be a healing touch, an uplifting touch, that these men may realize their opportunities and may rejoice in their high calling.

Bless each one in his home life. Bless them in their touch with the communities where they minister in the various specialties they have. Give life and learning to the human mind that their thoughts may be of Thee, and may conform to the laws Thou hast given us to lift humanity to a higher plane. And may each one of us put ourselves heart and soul into this great enterprise, making this a better world in which to live, a safer world every way.

When we have finished our work and lie down for the last time and pass on, we pray that every one of us may have a good conscience of having done his best, having made some contribution, however small it be, for the on-going of this human race with all its possibilities, with all its difficulties, with all its temptations, having made some small contribution to its uplift, to its betterment. We ask it for Thy Name's sake. Amen.

PRESIDENT BLACKBURN: We will now have the address of welcome on behalf of the city of Bowling Green by the Honorable William Harrison, the Mayor, (Applause).

Address of Welcome

HONORABLE WILLIAM B. HARRISON: Gentlemen of Indiana: (Laughter). In the course of my duties here in Louisville, I have frequent occasion to welcome various gatherings here, but from none of them do I gain the real and genuine pleasure that I do from conventions made up of men and women from our own state, Kentucky. The great seal of our state is symbolical of the feeling that we in Louisville have toward the rest of the state because we are overgrown, because our activities here engross us, and because I fear that most, if not all, of our time we get away from the state at large and become in our own minds perhaps something apart. But it only needs a few minutes of passing reference, and we are back again, not in Louisville, but in Kentucky as we are always proud to be.

Down in a small county seat a couple of years ago one of our Board of Trade delegation made a speech in the court house, and he told a story. It seems that a little Russian Jew and his wife who had emigrated to this country a good many years ago had built themselves a small business. They sold it out and retired to comfort and peace in their old age. They had a little house with a neat front lawn, and the old gentleman wanted to do something that would perpetuate and commemorate the partnership that had existed between himself and his wife. So he went to a well-known sculptor and said to him, "I want you should make for me a statue in my front yard wid glasped hants."

The sculptor said, "Glass pants? I never heard of such a thing. What kind of a statue is that?"

The Russian Jew said, "Wid glasped hants, glasped hants, glasped hants" (meaning clasped hands). (Laughter).

I hope you gentlemen from out in the state, not only of the medical profession of course but all citizens of our state, will feel that Louisville has always her hand stretched out, not looking for something but in genuine welcome to you whenever you come to our city.

I don't believe anyone engaged in his particular task quite realizes just what the other fellow thinks of him, or in what perspective he is seen by the other man.

I don't care whether the doctor is a psychologist, or what he is, he can't realize what he means to the laymen. When we are in trouble, when we are worried in our homes and we call the doctor and he comes, only a layman can tell you just that feeling of confidence, of contentment, of peace that enters the stricken heart and the worried mind when the doctor gets to work. Sometimes he is of no avail, but just the same his very presence there is always of tremendous comfort.

That is an occupation, a profession, an avocation that you can indeed be proud of irrespective of the science of the profession.

I noticed that yesterday you passed certain resolutions and adopted certain restrictions upon the writing of prescriptions. I won't express an opinion upon that, but I should like to say if there are any insurgents in the group represented I should be glad to see them in my office at any time. (Laughter and applause). As a matter of fact, I would welcome all of you, not with that in mind at all but simply to extend to you personally, if I only could, the greetings and the welcome of this city and to wish you a most successful session. (Applause).

PRESIDENT BLACKBURN: I just want to say to Mayor Harrison, gentlemen, that in the not very distant future down in the bloody third we are going to have an election, and if the thing doesn't go to suit us down there we are going to come to Louisville and try to get us a successful Mayor to come down and look over the affairs of Bowling Green for a while. The Mayor may expect, in the next day or two, to have many "glasped hants" in his office.

We will have the response to the address of welcome by Dr. William J. Shelton of Mayfield.

Response to Address of Welcome

DR. W. J. SHELTON, Mayfield; Mr. President and Gentlemen of the Kentucky Medical Association: I thought I was in Louisville this morning, but our President said we are in Bowling Green and the Mayor said we are over in Indiana. (Laughter). At any rate, we are glad to be here, and as a representative of the State Medical Association it is my pleasure and my privilege, as well as my duty, to bring to the doctors of Louisville the regards of the doctors throughout the state of Kentucky. I want to assure you that we appreciate the cordial invitation that you have given us to come to your city. We always like to come to Louisville; we enjoy being here.

Many years ago a large per cent of the profession of Kentucky entered its life work here in your city, and we like to think of those days. It was then that we learned to like you because of our association with you, and it was then that we learned to like the city of Louisville.

Those of us who took the work up in other sections of the country have come to Kentucky because we like Kentucky, and we like the medical profession of Kentucky. We take great pride in Louisville. We are all Kentuckians, and we feel that what is for the benefit of one section of Kentucky is for the good of all sections of Kentucky.

So we are glad to note that Louisville, long years ago, took her place among the great centers of the commercial cities of this nation, and we note with pride the rapid progress that your educational institutions are making and the rapidly increasing population of your city.

We take great pride in the history of Louisville, for that is a part of the history of Kentucky. For many years Louisville had been noted as one of the great educational centers of our country. Especially is this true in a medical sense. You have a noble heritage here, and we share with you the pleasure in that heritage that is so justly due. Many brilliant minds in the medical profession have lived here in Louisville and spent their lives in the investigation and the development of scientific progress and have contributed much to the progress of medicine, and have been recognized throughout the world.

We are naturally proud to come to a city with a history of that kind, and we realize in coming to Louisville that we are associated with a group of medical men who are living exponents of all that is kind and great in this glorious history of Louisville. It is necessary that the medical men of the state of Kentucky should come together in conferences of this kind at least once a year.

The profession of medicine has done much for the state of Kentucky. We have removed many obstacles and difficulties from the lives of the people, but there are yet many difficulties to be solved and there are problems to be solved, and it is by coming together, by closer co-operation, by closer co-ordination we are made more able and more competent to meet these difficult problems and to render to the people the service that they so justly demand.

So when we came to Louisville we came here with the assurance and with the expectation of being more competent, of being bigger and better men when the sessions have closed than they were before. The people of Kentucky all take great pride in the record of hospitality that they have. That is known throughout the entire state, but nowhere in Kentucky and nowhere in the world can you find hospitality, can you find courtesy better exemplified than you can in the city of Louisville among her citizens and in the medical profession.

I want to assure the medical profession of Louisville of the great respect and confidence the doctors of the state have in you. Permit me, again, to assure you that we thank you for the cordial invitation so graciously delivered by Mayor Harrison. (Applause).

PRESIDENT BLACKBURN: Gentlemen of the Kentucky State Medical Association: The founders of the Association got the habit a good many years ago of electing a President each year. When a man has to be mayor or governor, it takes him about four years to hit his stride, but the average doctor can get going and get through with it in one or two years.

When we think of those things on the part of our representative physicians who are worthy of the honor of being President, I think we first think of a man's scientific attainment. Next to that, we unquestionably think of what a man has done for organized medicine in Kentucky. If a man is scientifically trained, if he is representative of the profession in Kentucky and if he has been an active, ardent, loyal supporter of the work of the State Medical Association, then rather logically he becomes an exponent of that greatest field in medicine today, a teacher, a leader in preventive medicine.

Last year the House of Delegates saw fit to select as their leader for the ensuing year a man who is of scientific attainment, a man whose reputation began just over the border in Tennessee and has extended throughout the confines of these United States of ours. They even tell us he has been heard of in London occasionally, but that is just a war story. We don't know how true that is. We haven't attempted by any means to verify the details that have come back regarding that trip. We selected a man who had been active and loyal in the support of the work of the Kentucky State Medical Association and unquestionably, gentlemen, you selected last year a man who has, by all means, lent himself to the relief of suffering humanity, a man who has been a teacher and a leader in the development of preventive medicine. You selected a Tennessean by birth, a Kentuckian by misfortune, a man who is a philosopher and a seer, a man who looks into the future nearly as far as he has lived in the past, a man who was by birth a physician, a man who was by choice a salesman of surgical instruments, a man who was an inventor as witness the Hanes table, a man who was a trainer in aerobatics as witness one of his patients on that Hanes table. (Laughter).

Did you gentlemen from out in the state notice that array of beauty that came around here? Nobody in the Lord's world but an old bachelor would have thought of having that galaxy of beauty come by here just as he was going to take this stand.

It is my pleasure, gentlemen of the Society, to present to you Dr. Granville S. Hanes, President for the ensuing year. Mr. President! (Applause).

PRESIDENT HANES: This happens to be the time I am not supposed to make a speech. I just want to make one remark, however, that as many criticisms and aspersions as are flung at a bachelor I have witnessed some satisfaction this morning at least in living a bachelor's life. (Laughter). I have discovered in the past few years, since I have just begun my bachelor existence, attained at an age where I was called bachelor, that there is a great deal said about bachelors. The more I hear said about them, in some respects, the better I like them.

We will have no more elaborate speeches with a great deal of personal reference like we have just had. We are going to enter into serious, scientific work.

Gentlemen, I want to say this, however, that we do welcome you here with the warmest of hearts, and we want every one of you when you come into this hall to sit down on the first seat you see. Don't go near the window back there unless it is crowded. Sit near the speaker. We want more pep, more interest and more energy expended in this meeting than at any previous one, and then next year that spirit shall be augmented, and so on. That is progress. I am following the most worthy predecessor, and I am going to try my very best to beat him. The one who follows me, I want him to excell me.

Next on the program is the report of the Committee on Arrangements. Is Dr. Foresee here? (Absent).

DR. J. H. BLACKBURN, Bowling Green: Dr. Simpson requested me to announce that there will be a smoker at ten o'clock this evening, following the evening program, in the Pendennis Club for visiting physicians. You are all urged to come.

PRESIDENT HANES: The first paper of the symposium on scarlet fever is "Etiology and Symptomatology of Scarlet Fever," by Dr. T. J. Marshall, of Paducah.

SECRETARY M'CORMACK: Dr. Marshall is absent and Dr. Goodloe is going to read his paper.

DR. E. R. GOODLOE, Paducah: Mr. President and Members of the State Medical Society: I am sorry that the essayist is not present, and I am sorry again to have to apologize but when Dr. McCormack handed this paper to me a few moments ago it was quite a surprise and unexpected. I haven't had time to read Dr. Marshall's essay entirely. I glanced down at the first page. That is what I was doing just now. So I will beg of you to bear with us while we attempt to do the best we can in Dr. Marshall's absence.

Dr. E. R. Goodloe presented the paper prepared by Dr. T. J. Marshall, "Etiology and Symptomatology of Scarlet Fever."

PRESIDENT HANES: We have Dr. McKinlay's paper, and I shall ask Dr. Blackburn to read it.

Dr. J. H. Blackburn presented the paper prepared by Dr. C. M. McKinlay, "Diagnosis and Treatment of Scarlet Fever."

PRESIDENT HANES: The next number on the program is "Ear Complications in Scarlet Fever," by Dr. J. H. Peabody, of Louisville.

SECRETARY M'CORMACK: Dr. Hanes is being detained a few moments talking to the Auxiliary downstairs which is holding a very enthusiastic meeting.

The next paper is "A Practical Demonstration for the Control of Scarlet Fever," by Dr. J. L. Jones, of Louisville, State Epidemiologist. This paper was prepared in collaboration with Dr. J. W. Armstrong, of Berea, who will open the discussion later.

SECRETARY M'CORMACK: Before opening the discussion, I want to ask the senior students from the University of Louisville who are present to stand up. The other students from the University stand, please.

I just wanted the physicians of the state to have this opportunity of welcoming to our meeting those of you who will so soon be members of this organization. We are glad to have you here. We are glad to have you at our County Medical Society meetings from time to time, either in Louisville or any other place, and we want you to know we are just as much interested in your welfare and in your coming into the profession as we are interested in our own. (Applause).

I want to ask the members of the laboratory class at the University of Louisville, State Board of Health, to stand up just for a moment please. I am glad you all see these fine girls. The Dick test has been done on all of them and will be demonstrated at the close of the discussion with the other demonstration to be made here.

The discussion will be opened by Dr. Armstrong, of Berea, who participated in this very remarkable demonstration which is the most definite and largest demonstration yet made of the efficacy of the prophylactic inoculations against scarlet fever. I want you to get this idea definitely now, and if the statement I am going to make to you could have been made when smallpox vaccination was first demonstrated everybody in the world would have been vaccinated against smallpox already. The reason that smallpox vaccination has not been universal already is because the technic of this important operation is not understood and never has been by the majority of the practicing physicians who do the vaccinations.

Vaccination. when done properly, is one of the simplest operations done, but it should be done properly if it is done at all. The unnecessary brutality of the big scarifications and the tremendous number of unnecessary infections that follow an operation that should always be sterile have brought it into a certain degree of disrepute and have kept people from accepting its benefits.

The technic for the detection of susceptibility to scarlet fever is just as delicate and just as difficult both in its operation and in its reading as an operation for appendicitis or any other complicated operation that is to be done. Every step in detail must be mastered by every man who is going to undertake it if it is going to be of the slightest value in the future. It is only a question of time, and the thing we want to impress more and more on the practicing physicians is their responsibility for immunization against the diseases that we now know how to control.

If every man responsible for the delivery of a woman will realize his responsibility and will have the baby returned to him when it is nine months old and be immunized for diphtheria, and with the third immunization be vaccinated for smallpox, both diphtheria and smallpox will be eliminated. When the baby is three years old it should come in for its scarlet fever inoculation. When five years old and starting to school, it should be Dick and Schick tested to be sure of immunization, and revaccinated to secure the reaction for vaccination so that we will know they are protected against these diseases. The biennial administration of typhoid vaccine should then be begun which should be continued through the school age.

When the profession, and the question is going to be determined by the profession realizes its responsibility and does these things, it has answered the demand that the public will surely make for protection against these diseases that it is being taught can be prevented. The profession must do this or it will be necessary for the public health organizations to respond to public demand and do it. If the profession will do its duty and accept its responsibility and will learn these complicated technics and do them as definitely as they are doing what have heretofore been considered the more serious operations, there will be no question but that the medical profession will continue always to be, as we trust it always will continue being, the guardians of public health and do the things that they need to do.

We have had a compulsory vaccination law in this state for 100 years and yet we know we have failed to vaccinate our people. We are the ones who have made the failure. It is our job. We can do it as readily as we can give them castor oil or any other medicine if we will accept our responsibility.

This discussion will be opened by Dr. Armstrong, Berea, the symposium was further discussed by Julian Estill, Lexington; L. L. Solomon, Louisville; C. H. Harris, Louisville; E. W. Montgomery, Vine Grove; Philip F. Barbour, Louisville; J. E. Edwards, Lancaster, and closing discussion by Dr. J. L. Jones, Louisville.

SECOND SCIENTIFIC SESSION TUESDAY AFTERNOON, OCTOBER 22

The Surgical Section

The Surgical Section on Tuesday afternoon, October 22, convened at two-ten o'clock, Dr. C. A. Vance, chairman, Lexington presiding. The following essays were presented: "Diverticulitis of the Sigmoid," by Dr. Warren P. Sights, Paducah. "Management of the Surgical Diabetic," by Dr. E. B. Bradley, Lexington, discussed by Dr. J. W. Scott, Lexington and closing discussion by Dr. E. B. Bradley. "Reducing the Mortality of Acute Intestinal Obstruction," by Dr. F. K. Boland, Atlanta, Georgia, discussed by Dr.

G. A. Hendon, Louisville; Dr. J. R. Wathen, Louisville; Dr. Frank Boyd, Paducah, Dr. Frank Strickler, Louisville, Dr. L. L. Solomon, Louisville, and closing discussion by Dr. F. K. Boland.

On motion by Dr. A. T. McCormack, which was regularly seconded, Dr. F. K. Boland, of Atlanta, Georgia, was elected an honorary member of the Kentucky State Medical Association.

"Factors Influencing Surgery," by Dr. C. W. Dowden, Louisville, discussed by Dr. J. R. Morrison, Louisville. "Perforated Duodenal Ulcer, Some Observations on Diagnosis and Treatment," by Dr. J. Garland Sherrill, Louisville, discussed by Dr. Louis Frank, Louisville; Dr. E. F. Horine, Louisville and closing discussion by Dr. J. Garland Sherrill. "Treatment of Duodenal Fistula with Case Report," by Drs. J. M. Salmon and W. L. Gambell of Ashland, discussed by Dr. C. C. Howard, Glasgow; Dr. S. C. Smith, Ashland; Dr. J. W. Scott, Lexington, and closing discussion by Dr. J. M. Salmon.

THIRD SCIENTIFIC SESSION
TUESDAY EVENING, OCTOBER 22

The Special Order Tuesday evening, October 22, convened at eight-ten o'clock, Vice President J. L. Anderson, of Manchester, presiding.

The following papers were presented: "The Doctors and the People," by Dr. Granville S. Hanes, Louisville; "Oration in Medicine," by Dr. E. L. Gowdy, Campbellsville; "Oration in Surgery," by Dr. W. Barnett Owen, Louisville.

FOURTH SCIENTIFIC SESSION
WEDNESDAY MORNING, OCTOBER 23

The Fourth Scientific Session was called to order by President Hanes, Wednesday A. M., October 23. The following papers were presented: "Iodine in Hyperthyroidism," by Dr. R. P. Ball, discussed by Dr. Virgil E. Simpson, Louisville; Dr. J. R. Wathen, Louisville; Dr. J. F. Van Meter, Lexington; Dr. W. O. Johnson, Louisville; Dr. R .R. Elmore, Louisville, and closing discussion by Dr. R. P. Ball. "Resume of Five Years' Work in the City Hospital in the Department of Gynecology," by Dr. W. O. Johnson, Louisville, discussed by Dr. C. W. Hibbitt, Louisville; Dr. J. B. Lukins, Louisville; Dr. C. L. Sherman, Millwood; Dr. D. M. Cox, Louisville; Dr. Alice Pickett, Louisville and closing discussion by Dr. W. O. Johnson. "The Injection Treatment of Varicose Veins," by Dr. Frank Strickler, Louisville. "Spinal Anesthesia," by Dr. E. W. Northcutt, Covington; Discussed by Dr. Frank Stickler, Louisville; Dr. C. L. Sherman, Millwood; Dr. J. W. Scott, Lexington; Dr. W. R. Miner, Covington; Dr. L. L. Solomon, Louisville; Dr. A. W. Adkins, Morehead, and closing discussion by Dr. E. W. Northcutt. "The Passing of the Country Doctor," by Dr. J. H. Hendren, of Straight Creek; discussed by Dr. A. T. McCormack, Louisville; Dr. C. L. Sherman, Millwood; Dr. Morris Fishbein, of Chicago, and closed by Dr. Hendren.

FIFTH SCIENTIFIC SESSION
WEDNESDAY AFTERNOON, OCTOBER 23.

The Scientific Session Wednesday afternoon, October 23, was called to order by President Hanes, at two-ten o'clock at which the following essays were presented: "Importance of Diagnosis in Renal Infection," by Dr. Owsley Grant, Louisville; discussed by Dr. T. C. Hill, Louisville and closed by Dr. Owsley Grant. "The Use of Skin Grafts in Plastic Surgery," by Dr. F. M. Massie, Lexington and discussed by Dr. Fred Koontz, Louisville. Symposium on Diabetes: "Surgical Aspects in Diabetes," by Dr. C. C. Howard, Glasgow; "Fundamentals of Diabetic Therapy," by Dr. F. G. Speidel, Louisville. Dr. C. H. Mayo, Rochester, Minnesota, briefly addressed the assembly. The third paper of the symposium on diabetes, "Ocular Manifestations of Diabetes," by Dr. A. O. Pfingst, Louisville was read by Dr. C. D. Townes, Louisville. The above papers of the symposium were discussed by Dr. R. Hayes Davis, Louisville; Dr. Virgil E. Simpson, Louisville; Dr. J. A. Orr, Paris; Dr. J. W. Scott, Lexington and closing discussion by Dr. F. G. Speidel. "Undulant Fever," by Dr. L. H. South and discussed by Dr. Virgil E. Simpson, Louisville; Dr. J. R. Morrison, Louisville; Dr. J. W. Moore, Dr. A. W. Nickel, Louisville; Dr. O. Bloch, Louisville; Dr. J. A. Kirk, Louisville; Dr. A. T. McCormack of Louisville and closing discussion by Dr. L. H. South.

GENERAL SESSION

The Public Meeting, Wednesday evening, October 23, was held in the auditorium of the Knights of Columbus Hall, was called to order at 8:30 o'clock by President Hanes. The first paper was delivered by Dr. C. H. Mayo, of Rochester, Minnesota, on the subject of "Focal Infections." President Hoover's address received over broadcasting station WHAS. Dr. Morris Fishbein, of Chicago, gave his address on "The Prolongation of Life."

SIXTH SCIENTIFIC SESSION
THURSDAY MORNING, OCTOBER 24

The Thursday Morning Scientific Session, October 24, was called to order at nine forty-five by President Hanes. The following papers of the symposium on influenza were presented: "Clinical Course and Treatment of Influenza," by Dr. W. J. Shelton, Mayfield; "X-Ray Diagnosis of Complications of Influenza," (motion pictures) shown by Dr. E. D. Enfield, Louisville; "Empyema and Influenza," by Dr. E. S. Allen, Louisville; "Ear Complications," by Dr. J. W. Nolan, Harlan; "Psychosis Following Influenza," by Dr. H. B. Scott, Louisville. The foregoing papers were discussed by Dr. W. A. Jenkins, Louisville; Dr. Austin Bell, Hopkinsville; Dr. Rowan Morrison, Louisville; Dr. L. L. Solomon, Louisville; Dr. A. J. Brown, Stanford, Dr. O. O. Miller, Waverley Hills Sanitarium, Louisville; Dr. Whittemore, of Bismarck, North Dakota; Dr. L. H. South, Louisville; Dr. A. T. McCormack, Louisville; Dr. J. T. Reddick, Paducah, and closing discussion by Drs. Shelton and Nolan. "Broncho-Pneumonia in Children," by Dr. Clay Crawford, Fort Thomas and discussed by Dr. J. H. Pritchett, Louisville; closing discussion by Dr. Crawford.

SEVENTH SCIENTIFIC SESSION

THURSDAY AFTERNOON, OCTOBER 24

The Scientific Session Thursday afternoon, October 24, presided over by President Hanes, convened at two-five o'clock. The following essays of the symposiums on obstetrics were presented: "Preliminary Report of Maternal Mortality in Kentucky in 1927," by Dr. Frances Rothert, Louisville; discussed by Dr. F. G. Speidel, Louisville; Dr. S. P. Oldham, Owensboro; Dr. Alice Pickett, Louisville; Dr. R. L. Woodward, Hopkinsville; Dr. H. A. Davidson, Louisville; Dr. J. L. Jones, Louisville; Dr. G. G. Thornton, Lebanon; Dr. B. K. Menefee, Covington; Dr. P. C. Sanders, Danville; Dr. A. T. McCormack, Louisville, with Dr. Frances Rothert closing. "Relief of Pain During Labor," by Dr. L. C. Redmon, Lexington; "Intra-Cranial Hemorrhage of the New Born," by Dr. P. F. Barbour, Louisville; "Version and Extraction," by Dr. C. C. English, Louisville. The last three papers were discussed by Dr. S. P. Oldham, Owensboro; Dr. Alice Pickett, Louisville; Dr. W. T. McConnell, Louisville; Dr. J. S. Owsley, Lily; Dr. S. H. Starr, Louisville, and closing discussion by Drs. Barbour and English.

The meeting adjourned sine die.

A. T. M'CORMACK, Secretary.

Official Minutes of the House of Delegates of the Kentucky State Medical Association, Louisville, October 21, 22, 23, 24, 1929.

FIRST SESSION, OCTOBER 21

The opening session of the House of Delegates of the Seventy-ninth Annual Meeting of the Kentucky State Medical Association, held at the Brown Hotel, Louisville, Kentucky, October 21-24, 1929, convened at two-fifteen o'clock, President John H. Blackburn, presiding.

PRESIDENT BLACKBURN: Gentlemen, the House will come to order and we will declare the Seventy-ninth Annual Session of the House of Delegates open for business.

The first, gentlemen, is the report of the Committee on Credentials by Dr. J. Duffy Hancock, of Louisville.

DR. J. DUFFY HANCOCK, Louisville: In view of the fact that there have been no contests reported, we submit the roll call by the Secretary as the official list unless a controversy arises.

PRESIDENT BLACKBURN: That is so ordered unless some controversy should arise. We will ask the Secretary to call the roll by counties.

Secretary McCormack called the roll.

SECRETARY M'CORMACK: A quorum present, Mr. President.

PRESIDENT BLACKBURN: There being a quorum present, the House will proceed to take up the remainder of the program for this session.

The Minutes of the 1928 Meeting

DR. L. H. SOUTH, Louisville: I move that we dispense with the reading of the minutes of the 1928 session, as they are printed in the Journal. The motion was seconded and carried.

PRESIDENT BLACKBURN: Report on Scientific Work. Dr. Granville S. Hanes, of Louisville, Chairman of the Committee.

DR. G. S. HANES: This has been a very busy time for this Committee, and we will make a report right here. We are making progress slowly, if you know what that means. Maybe Dr. South has something to say. She has a great deal better idea about that than I have.

PRESIDENT BLACKBURN: We will pass that report at this time, gentlemen, and take that up later.

Report of the Committee on Arrangements, Dr. C. G. Forsee, of Louisville, Chairman.

DR. C.G. FORSEE: Mr. Chairman, I spoke to Dr. Staggs about that and he promised to have that report ready.

SECRETARY M'CORMACK: Dr. Forsee, I know you want to report that the banquet will be at the Kentucky Hotel at six o'clock on Wednesday evening and all the members are urged to register especially for that banquet at the registration desk because we want to report to the hotel the number that will actually be present at the meeting. For that reason I want you to register at the desk for it and to ask all the other members you come in contact with to register.

The Committee has also arranged for a luncheon for the Woman's Auxiliary at Tuesday noon. We want to get all the women here with their husbands, brothers or uncles to register for the luncheon at the Pendennis Club on Tuesday noon.

PRESIDENT BLACKBURN: Gentlemen of the House of Delegates: For the President's report I might say that during the year we have made two trips. One was into Western Kentucky and one into Eastern Kentucky. I asked Dr. Hanes to accompany me on this Western Kentucky trip, and of course we couldn't get rid of Arthur McCormack and Blackerby. The four of us went into Western Kentucky, and after considerable noise and hullabaloo in Western Kentucky, attending Society meetings, attending the Southwestern District meeting, we decided to make a trip into Eastern Kentucky, and we wanted something besides talk, so on this Eastern trip, we asked Dr. Hibbitt to go along on that Eastern trip. We found a most hospitable reception, doctors, everything else necessary to make it a really successful trip.

We found it, gentlemen, a most delightful visit both into Eastern Kentucky and Western Kentucky. We felt we wanted to see the doctors at home, to get acquainted with them. I feel that the trips, both of them, were from our point of view, well worth while. We are hoping that it was worth while for the different county societies that we visited and for the district society meetings. It led to the organization of the Eight Councilor District Society up at Falmouth. That was one real accomplishment of the trip.

Now we will hear the report of the Council.

Secretary McCormack read the report of the Council, which was published in Annual Number of the JOURNAL.

PRESIDENT BLACKBURN: Gentlemen, this report will be referred to the Committee on Report of the Council.

We will now hear the Treasurer's report, Dr. McClure.

W. B. M'CLURE, Lexington: The Treasurer's report has been published fully in the Annual Number of the JOURNAL after having been audited, and there isn't anything that I can add except to warn you concerning the report of the Medico-Legal Committee.

We would be very glad if every member would read the Treasurer's report, check it up, criticize it, if you see fit.

PRESIDENT BLACKBURN: This report of our Treasurer will be referred to the Auditing Committee.

Dr. C. W. Hibbitt read the report of the Auditing Committee regarding the Treasurer's report.

REPORT OF AUDITING COMMITTEE

DR. C. W. HIBBITT, Louisville: The Auditing Committee begs to report the correctness of the books and accounts of this Association, as certified to by Public Accountant, after a thorough examination of them by him.

C. W. Hibbitt,
C. G. Forsee,
E. W. Montgomery.

PRESIDENT BLACKBURN: You have heard the report of the Auditing Committee regarding the Treasurer's report. What is your wish regarding this?

DR. B. F. ZIMMERMAN, Louisville: I move that the report of the Auditing Committee be accepted.

DR. W. B. M'CLURE: The books have been audited by a paid auditor, but it is customary for this body to appoint an Auditing Committee. My books are in my possesion there and I should be glad to have an Auditing Committee go over them.

PRESIDENT BLACKBURN: The Auditing Committee of which Dr. C. W. Hibbitt is Chairman, has gone over your report in the JOURNAL and they have reported that that is correct according to the report of the Public Accountant.

SECRETARY M'CORMACK: I should call the attention of the Treasurer to the fact that I would have saved him that embarrassment if he had only listened for a moment, which is very difficult for a Scotchman to ever do.

PRESIDENT BLACKBURN: I think the score is even between the Scotchman and the Irishman.

The motion that the report of the Auditing Committee be accepted was seconded and carried.

PRESIDENT BLACKBURN: We will hear the report of the Secretary.

SECRETARY M'CORMACK: I have no further report to make at this time.

PRESIDENT BLACKBURN: That is the briefest report Arthur has ever made, his report having been printed in the JOURNAL.

Reports of Councilors by Districts.

REPORT OF COUNCILOR, FIRST DISTRICT

DR. V. A. STILLEY, Benton: Notwithstanding the loss of a few members by removal and some by death, we have a net gain of two in our District. We have had several counties recognize that hadn't had a meeting in a number of years. The Women's

Auxiliary has been organized in practically all the counties. I feel the organization in the First District is in better shape than it has been for some time. (Applause).

PRESIDENT BLACKBURN: The Second District, Dr. D. M. Griffith, Owensboro. (Absent). Third District.

Report of Councilor, Third District

DR. C. C. HOWARD: The Third District, I think, is in very good shape. Most of our counties have societies that meet rather regularly. Two counties, Butler and Edmonson, have, I think only one doctor each. We are having our district meetings at Hopkinsville, Bowling Green and Glasgow. We are trying out, as the Doctor said here, rather an experiment. We have with the aid of the Foundation Commonwealth Fund, completed a hospital at our place and we are trying that out as an experiment in the way of public health and caring for communities. We hope to train our nurses and internes, and have one or two internes. We now have one interne. It is a very modern plant and we are very fortunate. We are having our meetings there and we also intend to have teaching there once or twice a year with men who have taken up certain lines, and especially for the public. I don't know how that is going to work out, but that comes in line with what the Doctor was reading here, trying to educate the public. We have been very much pleased to have the public take hold of these things. The public will solve a lot of things that worry us a great deal, as quickly as we could, or more quickly. They have realized that they have to have some place to carry this on.

One of the special problems is that it is becoming so expensive to be sick in the country. It is cheaper to come into some center. The Ford car and the boy that came back from the war have almost solved the problem. He can take a Ford car and fix it and take the sick anywhere they want to go.

So I think our District is in fairly good shape. Our membership has increased and we are trying to keep it up. As I say, there are only two counties that really haven't enough doctors, Edmonson and Butler. (Applause).

PRESIDENT BLACKBURN: The Fourth District, D. E. McClure, of Elizabethtown. (Absent).

Report of Councilor, Fifth District

DR. W. E. GARDNER, Louisville: It is the source of great personal satisfaction to be able to report that the affairs of the Fifth Councilor District are in excellent shape, and I have not at any time during my term of office seen greater interest in the work of the county societies comprising this district than during the past year. The officers of the respective societies have been actively interested in preserving their organic affiliation with the State Medical Society, and have had whole hearted support from all of their members.

There has been a gain in membership in some counties and a loss in others, but on the whole the total membership of the district is slightly larger than that of last year, which has been consistent with the increases which have taken place during the past five years. All of this in spite of the fact that there have been a number of deaths within the district, during this time, and some members have moved to other locations. A number of recent graduates have located within the district, principally, in the larger centers of population,but a few in the smaller towns,and it has been gratifying to know that there has not been the loss of membership which one might anticipate with the gradual death and retirement of the older physicians.

There has been an excellent spirit of goodfellowship and professional co-operation among the members of the district, and we have been fortunate in having both President Blackburn and President-Elect Hanes, meet with some of our county societies during the past year. It is always a stimulating factor to have the President of the State Society in attendance at a meeting of the County Medical Society, and we are indebted to Dr. Blackburn and Dr. Hanes for the untiring interest which they have manifested in the welfare of the Kentucky State Medical Association during the past year, through their contacts with the various district and county medical societies. (Applause).

Ninth Councilor District

DR. S. C. SMITH, Ashland: The Ninth District is in better condition than it has been. We reorganized the society in Magoffin County, and we have some prospects of reorganizations in others. It is rather difficult to organize in some of those counties because of the small number of physicians and other reasons which enter into the organization. We hope within another year to have practically every county with a sufficient number in the county organize a county society.

In regard to the Councilor District Society, I think it is impractical there because the states of Ohio, Kentucky and West Virginia have organized a Tri-State Medical Society, which meets at Huntington abourt 4 times a year and it takes the place of a Councilor District Society. Practically all the physicians in my District are eligible to membership in this society, and most of them, I think, belong. We have some very interesting meetings and they have men of national reputation from various sections of the country come there and read papers. (Applause).

PRESIDENT BLACKBURN: Tenth District, Dr. C. A. Vance, of Lexington.

REPORT OF COUNCILOR, TENTH DISTRICT

DR. C. A. VANCE, Lexington: According to the 1929 report we have in the Tenth District 240 paid up members. This is a slight increase over last year. I have not been able to get in the County Societies but very few of the eligible non-members. This seems to me now to be very much more of an undertaking than it did last year. I have tried in every way to promote this work and enthusiasm for the State Association in this district.

Last June we were able to hold a Tenth Councilor District meeting in Winchester with an attendance of more than a hundred. Drs. Simpson and Sherrill made addresses and we also had present several of the officers of the State Society. This was the first meeting of the kind ever held in Central Kentucky. After the meeting we were entertained with a fish-fry at the camp of Dr. I. H. Browne, at Boonesboro. It was a very interesting, instructive and enjoyable meeting and every one seemed to have a grand time. We hope to arrange other district meetings in the future. I am sure meetings like this one advance the cause of the State Association and the individual physician.

Bourbon County has regular monthly meetings with a good attendance and they usually have an outside physician to address them besides their own members.

Clark County has regular monthly meetings. This Society seems to be in good condition. They have their meetings at members homes preceded by a dinner.

Estill County has regular monthly meetings, which are attended as well as one would expect for a small membership, and the programs are always interesting.

Fayette County has regular monthly meetings and this year they have been very successful with their programs. They have had an average attendance of more than 40 for the year.

Jessamine County has regular monthly meetings, but do not, of course, have a large attendance. Jessamine County lost by death one of its oldest members this year, who had always been an ardent supporter of the State Association and the Jessamine County Society. This was Dr. Thomas Welch, who was burned to death in his home. He was a fine type of the old family physician and will be greatly missed by everyone. All of us regret very greatly his death. I wish to take this opportunity to express my appreciation of his long and valuable service to the profession of Kentucky.

Madison County has regular monthly meetings, which are well attended and they have excellent programs and entertainments.

Montgomery County has regular monthly meetings, but these meetings are not attended as well as they should be.

Scott County has regular monthly meetings with good attendance with about half the programs being supplied by outside physicians.

The Woodford Society, which was rejuvenated last year, has active members but they do not have regular monthly meetings. I hope that they inaugurate a regular program for the coming year.

The following counties do not have monthly meetings: Bath, Breathitt, Lee, Menifee, Morgan, Powell, Rowan and Wolfe.

When I first began to visit the County Societies in this District I was very much disposed to censure the members for their irregular attendance, but now I do not at all, for it is very difficult for these men, who practice in a rough county district to do very much more than attend to their practice, but still I would urge them to attend the County Society meetings whenever they can. The Tenth District is in good condition, but I still shall do my best to improve it generally.

PRESIDENT BLACKBURN: The Eleventh Disrict, Dr. W. M. Martin, of Harlan.

REPORT OF COUNCILOR, ELEVENTH DISTRICT

DR. W. M. MARTIN, Harlan: Mr. President, I did not present a written report because I knew I would forget something I wanted to say. I think the Eleventh District is growing each year and is much better during this year than it has been since I have been its Councilor, not from the fact, however, that I have been the Councilor.

I have found that in the Eleventh District the thing that did us most good was the organization of county medical societies. For instance, we have a county medical society composed of five counties. We invite to those meetings doctors out of the district, sometimes from Louisville, sometimes from Cincinnati, sometimes from Lexington, and sometimes from Knoxville. We find we get better attendance by having that kind of meeting. There is part of my District I have never been over, and I expect it will be a long time before I will get over it. One county has one doctor. He has agreed it is much better for him to come over and visit some of our other county medical societies, and I can see him there rather than for me to go to see him.

As to my experience at the last Legislature, I spent about forty days up at Frankfort, and the last six months I have been trying to do more along that line than along scientific medical lines. I want to say to the Society that we feel we have some medical laws that might embarrass us, or any laws in regard to the present State Board of Health, but we are pretty well fortified, I think much better than we were in the 1926 Legislature.

Secretary McCormack took the chair.

SECRETARY M'CORMACK: The next item is the report by counties. I will call the names of the counties from which the delegates are present. Boyd County, Dr. Salmon. Do you want to tell about the Boyd County Medical Society?

Boyd County

DR. J. M. SALMON, Ashland: The only thing I will report about Boyd County is that it is holding its meetings regularly. They are pretty well attended. We think we have interesting meetings. We have good programs and we rely upon ourselves almost exclusively for these presentations. The reason we do this is that we have the Tri-State Society, composed of physicians of Kentucky, West Virginia and Ohio, and at these meetings we have men of national reputation from a distance. We all attend these meetings and derive a great deal of benefit from them. For our own meetings we depend on our own members. We are well satisfied with the results, but still we hope to improve next year.

SECRETARY M'CORMACK: Breckinridge County, Dr. Harned.

Breckinridge County

DR. E. C. HARNED: We can't have a meeting because half of our members are there and half are here.

SECRETARY M'CORMACK: Fayette County, Dr. L. C. Redmon, of Lexington.

Fayette County

DR. L. C. REDMON, Lexington: The Fayette County Medical Society now has ninety-eight members with dues paid and in good standing. Within the past year we have elected seven new members and have had one death in the Society.

During this year we have had ten Scientific meetings with an average membership attendance of thirty-eight. Within the past year we have had symposiums on the following subjects:

Local Medical History.
Gastro-Intestinal Malignancy.
Cardio-renal disease.
Eye, Ear, Nose and Throat.
Cancer.

Franklin County

DR. L. T. MINISH, Frankfort: Franklin County has a paid up membership of twenty members. We lost one during the year. We have regular monthly meetings at the Capital Hotel. After our scientific programs, we adjourn to the dining room where we have lunch. We have always been able to have a meeting each month this year and we have arranged to have a program each time. The Society is progressing very nicely.

SECRETARY M'CORMACK: Garrard County, Dr. J. E. Edwards, of Lancaster.

Garrard County

DR. J. E. EDWARDS, Lancaster: Garrard County has only six doctors. Five of them are connected with the Society. We meet occasionally.

SECRETAY M'CORMACK: Hardin County, Dr. Montgomery, of Vine Grove.

Hardin County

DR. E. W. MONTGOMERY, Vine Grove: We have a membership of twenty-six in our Society and I think that includes practically every man in the county. We have regular meetings, and I am sorry to say we have had three law suits in the county since last year. They all seem to be brought by one attorney.

Harlan County

DR. CLARK BAILEY, Harlan: Harlan County has a membership of about sixty members and we are geographically located there, due to the mountainous country, so that it would be almost impossible for all sixty members to attend the meetings. Our attendance averages between twenty and forty. We have our meetings arranged so that we have a dinner preceding each meeting and we find we get a much better attendance in that way than we do if we don't have a dinner with it. We usually have outside speakers. We haven't had a program within the last two years now where we have depended on local talent for our meetings. We find that much more successful. We have a good attendance and a good Society that is growing all the time.

SECRETARY M'CORMACK: Mr. President, I think the difference in the picture drawn by Dr. Bailey today and the picture that I first saw when I went to Harlan County some thirty years ago is sufficient to interest this House for just a moment. Dr. Bailey's father then was one of the three physicians in Harlan County. None of its remarkable industrial advancement had been begun. To see now, in that then practically deserted area, a profession that is surpassed by no other in this country, doing an effective scientific medical work, the people being given the best that we have, is a remarkable statement of progress, and I don't think this report ought to be passed without noting the difference. Dr. Bailey's father was President of the County Society when I was there thirty-three years ago.

Jefferson County

DR. F. M. STITES, Louisville: Jefferson County Medical Society has had Regular Meetings, 18; Special Meetings, 1; Dinner Meetings, 2; Addressed (visitors from out of town,) 2.

On November 19th, 1928, at a dinner meeting, Dr. Henry D. Chadwick, Superintendent and Medical Director, State Sanatorium, Westfield, Mass., gave an address on "Juvenile Tuberculosis."

Annual Fraternal Dinner Meeting on December 17th.

On April 1st, 1929, Dr. A. M. Mendenhall, Professor of Obstetrics, University of Indiana, gave an address on "Pituitrin and Ruptured Uterus."

Essays, 15; Clinical Cases, 10; Case Reports, 17.

Present Membership 425; 22 new members in 1929.

LETCHER COUNTY

DR. BERT C. BACH, Whitesburg: I think we have about thirty-eight in the county. Twenty-six belong to the Society. Unfortunately, we don't meet as often as we should, but I think it is every fortnight.

SECRETARY M'CORMACK: McCracken County.

McCRACKEN COUNTY

DR. O. R. KIDD, Paducah: The delegates from the good County Medical Society of McCracken, are pleased to report that our county society was never in a more satisfactory condition. Since the last meeting of our association we have been having regular monthly meetings, except during some of the hot summer months, and there is always something fresh and good for us to look forward to.

Our secretary sees to it that we have a good attendance and something of interest for each meeting. We continue, as we have for several years, to make our society meetings, dinner club meetings, thereby making them social sessions as well as scientific meetings.

This plan brings us together around the banquet table promoting good fellowship and harmony. Our profession is devoid of all bickerings and antagonisms and we are working together as one harmonious whole.

Our April meeting this year was a "ladies night" meeting. Most of the doctors were present with their wives, and the superintendents of both hospitals and a number of the nurses met with us as guests of some of the doctors. Music, a good dinner, the presence of the ladies, and wit and repartee, made this a joyous occasion.

At our May meeting, Miss Elizabeth Goforth and Miss Florence Hauswald, representing the Maternal Welfare and Child Health work of the State Board of Health were guests of the society and made interesting and instructive addresses.

Last May our county society was host, as usual, to the meeting of the Southwest Kentucky Medical Association at Paducah. At that meeting it was our great pleasure to have with us President Blackburn, President-Elect Hanes and Secretary McCormack of the State Medical Association. Their presence was greatly appreciated.

Through the influence of the McCracken County Medical Society, Riverside Hospital, our city hospital, has recently been made by the American Hospital Association, a Standard Hospital, having met all the requirements imposed by that organization.

Our society now numbers forty-five members, having lost three members since our last state meeting, two by death and one failed to pay dues.

Our very efficient and competent secretary, Dr. J. T. Reddick, one of our busiest doctors, has been secretary for the past seven years, and during that time has never missed but one meeting. Besides making all arrangements, including the program, calls every doctor the day of the meeting and reminds them their presence would be appreciated.

MARSHALL COUNTY

DR. L. L. WASHBURN, Benton: We have eighteen doctors in Marshall County. All are members except three or four who are invalids and are not able to attend. Our county societies are usually well attended. The District Society, which meets at Paducah, is well attended. Some of our members have been attending the association which meets in Memphis.

MERCER COUNTY

DR. G. L. JOHNSON, Harrodsburg: We haven't had a meeting this year. There are only three or four doctors.

SECRETARY M'CORMACK: I would refer that to the President-Elect, who will probably be down there for a visit shortly. We will now hear from Muhlenburg County.

MUHLENBURG COUNTY

DR. CLAUDE WILSON, Greenville: We reorganized in July with sixteen members and had a good meeting on that date. We are planning to have monthly meetings and each time to arrange a good program.

NELSON COUNTY

J. I. GREENWELL, Bardstown: Nelson County had but very few meeting last year, owing to the doctors living so far from each other. We have thirteen doctors in the county, nine are members of the county society.

We lost three of our members last year by death. A. A. Cox, of Bardstown; Chas. McClure, of Cox Creek, and J. N. Shehan, of Bloomfield.

We hope by the help of of our Councilor, to renew our meetings.

OLDHAM COUNTY

DR. R. B. CASSADY, La Grange: Our Secretary did not furnish me with any written report so I am not able to give one.

I think they are progressing some. I don't know how many paid up memberships they have, but I think there are twelve or fourteen. They meet occasionally, but not regularly. They are getting along pretty well, I think. Oldham County is a very small county. It is progressive but not doing as much good work as it might do. There are so many things we ought to do that we don't do, and I should like to say something about the tobacco habit that is being very commonly presented here this evening. I wish that people would become clean and pure and righteous and get rid of this stinking, nasty, filthy, expensive, dirty habit. (Applause). They make fun of me because I don't use tobacco in any form whatever, but the development of it is sapping the foundation of our Society in Kentucky and among our young people. I am sorry to see it, but it is growing. It is developing and some day not very long from now we will pay the penalty of one of these terrible scourges that are afflicting humanity. There is not only the tobacco habit but the opium habit, and not only that but there is the alcohol habit. The devil has us all along these lines, and the doctors are to blame for it too. I never wrote a prescription for liquor in my life, and I never intend to write one. I will not go to the poor house either. Some of the doctors in our town who are writing these prescriptions are making a living out of it. It is a shame; it is a disgrace to Kentucky. Doctors! I could talk on here, but I shall have to quit. I might say something. (Applause).

SECRETARY M'CORMACK: We will now hear from Taylor County.

TAYLOR COUNTY

DR. O. H. SHIVLEY, Campbellville: The Taylor County Association for the past year has continued to hold monthly joint meetings with the Association of Adair and Green counties. Because of road conditions no meetings are held the first three months of the year. One hundred per cent of the active physicians of the county are members.

Case reports have had a prominent part in our meetings and a number of scientific papers have been read by the members. A number of guests have honored us with visits to our meeting. Drs. Hanes, McCormack and McCoy with Mr. Blackerby, visiting us in December. Drs. Keith and Gardner delivered excellent essays at the meeting in June. Our Councilor, Dr. McChord, and the members of the profession of Marion County have added materially to our meetings. Others of our friends have dropped in one or more meetings.

The society furnished a number of speakers for talks to the student body of Campbellsville Junior College, in the last school year. In connection with the Auxiliary we also aided in a tonsil clinic for school children. We have been fairly active, but there is still room for improvement.

President Blackburn resumed the chair.

PRESIDENT BLACKBURN: This finishes the reports of the delegates by counties, those present at this time.

We will now hear the report of the Medico-Legal Committee, Dr. J. B. Lukins, of Louisville, chairman.

REPORT OF MEDICO-LEGAL COMMITTEE

DR. J. B. LUKINS, Louisville: This has been a very active year for the Medico-Legal Committee. We sometimes think that malpractice suits. like cancer, are becoming more prevalent. At least there are many more threatened. In the case of a deformity after setting a fracture (in fact most anything nowadays) it is how much money they can force or scare that doctor into paying.

The number of suits we had on hand one year ago at the meeting October 1, 1928, was twenty. The number of suits filed October 1, 1928 to October 1, 1929 was twenty. The number of suits threatened but not sued were nine. Now there have been many more than nine suits threatened, but of course you can readily see how the majority of these would not come to my hands. A member of this Society can get a letter threatening a malpractice suit, and that is as far as it goes. Consequently the Medico-Legal Committee does not hear of many of them. But we have nine on file in my office now.

Number of suits tried before a jury, three. Number of suits compromised ($200 paid by the Medical Protective Association), one. Number of suits dropped, eighteen. To my mind this is the most important item in this report. You see that in the whole year there are only three suits that went to jury for trial. There were eighteen that were dropped simply because the plaintiff got tired and he just dropped it, and we never heard any more about it. Some of them went so far as to pay the bill which they owed the doctor. I would emphasize this point: that the best way to get rid of these malpractice suits is to ignore them. Pay no attention to them. We can wear out nearly every one if we will have the full co-operation of the doctor who is sued and his friends. The first thing that happens when a doctor gets a letter threatening malpractice, in the average case, is he becomes excited. He tells his neighbor in the office with him and they tell two or three more, and the first thing you know six or eight doctors know about it and people not in the profession know about it. Some claim agent gets hold of it, for instance, in the insurance company, and he keeps the path hot between the plaintiff and the defendant. This thing is stirred up and the doctor gets so excited he believes he had better give them $500 or $1,000 and quit. As a rule, that is the poorest policy. It is best not to go to the mat in the majority of these cases. At least that is what our five years' experience seems to show.

If I will be pardoned for mentioning one case that will illustrate this perfectly, one of our leading physicians in Louisville, I wont call his name, was treating a case, apparently minor skin trouble, with lamp treatments and x-ray treatments. This went on for several months. The patient got tired because he noted no improvement and went to Mayo's, where an operation was done, and they found it to be sarcoma.

This man brought suit against our Louisville physician and the physician happened to have insurance in a compnay, not the Medical Protective Compnay, because they were more experienced in handling these cases. This insurance company sent their claim agent here from Chicago, who went to see this doctor, got him all excited, the doctor came to see me three or four times in one day and went back to see the plaintiff, offered him $500 and wanted us to give $500. I said, "No, we won't give a nickel. I will advise you to withdraw your offer for $500." The insurance company were glad toget out of it for $500. We ignored it and it was dropped without a nickel being paid. Number of cases taken to the Court of Appeals, three. The lower court sustained the Court of Appeals, that is we got a verdict in favor of the doctor, in one case. Two cases were decided against us in this year. In one case, $750 was rendered the plaintiff. This was a case where the doctor had given neosalvarsan and got some outside of the vein. There was very strong proof in this case that the doctor was drinking at the time, in fact was partially under the influence of liquor.

This next case was $3,000. We took it to the court twice. There was a simple Colles' fracture. The boy's arm was said to be absolutely hopeless. Several men have seen the case and I think it was operated on once. A good deal of the difficulty in this case was caused by the fact that the doctor, who was sued talked too much. We find that many doctors, as soon as they get a letter threatening a malpractice suit, want to hire all the lawyers in their town. They get all excited. More people know about it and it causes a great deal more difficulty in every case. That case went to the Court of Appeals and they sent it back for retrial. We tried it again in the county in which it was brought. By the way, all these we lost were in the western part of the state. We had a second trial in the Circuit Court. It was taken the second time to the Court of Appeals and the evidence was so very strong that the Court of Appeals sustained a $3,000 verdict against the doctor.

The Kentucky State Medical Society does not pay the $3,000. If he has a policy in some insurance company they are bound for it. We simply pay all the costs of the case.

The number of suits in which the judge gave peremptory instructions were two. One of these was in our own city last week. Number of Court of Appeals decisions adverse to physicians, two. Number of cases pending to date, fifteen.

I might say there is a good deal of work hinging on this business. It is pleasant work if you can get the complete co-operation of the physician. Most of the cases have been very pleasant indeed. It is only where a physician gets too excited and wants to hire too many lawyers and wants to run the case himself, that we have trouble.

As you heard in the report of the Council, when we took charge of this work the cost was between $2,300 and $2,400 a year to defend them. This cost now has been reduced to between $1,200 and $1,300, and in addition to that our results have been materially better. We have lost only two cases.

We have reduced this cost by a letter which we send to every lawyer. For instance, Dr. Smith down at Fordsville writes us that he is being sued or about to be sued, and he wants Mr. Jones, a lawyer in his town, to defend him. We refer this letter to our attorney, Mr. Fred Forcht. Mr. Fred Forcht writes Mr. Jones, the lawyer, that we will be glad to have him assist in the defense of this case but his fee must be left to Dr. McCormack, Dr. McClure and myself. Since we have been doing this, for about two years, fees of lawyers out in the state have been very satisfactory.

PRESIDENT BLACKBURN: This is a matter that it occurs to me is of vital import to every member of the Kentucky State Medical Society. Dr. Lukins has been very active indeed in this work, and I feel that the House of Delegates and every member of the profession in the state is indebted to him for the activity and for the manner in which he has helped to conduct these cases. I happen to know from personal experience if a fellow gets scared it is much more apt to be expensive to him, and if he just sits tight and has the advice and counsel of attorneys and doctors who are familiar with this type of litigation, he will be better off. I am sure that every one of us feels indebted to Dr. Lukins for his work on behalf of the State Medical Society through his Committee. (Applause).

We will now have the report of the Committee on Crippled Children.

Report of Committee on Cripple Children

DR. W. B. OWEN, Louisville: This report includes all the cases that have been taken care of through the Crippled Children's Commission. All agencies that have been in any way connected with the conduct of crippled children of the state of Kentucky we try to put through the same channel, and that is the Commission which is appointed by the Governor.

The report at this time is one of all activities for the past twelve months.

From September 1, 1928 to October 21, 1929, 796 indigent crippled children under the age of 18 years have been committed to the care of the Kentucky Crippled Children Commission and have received treatment. This number includes 591 new cases and 205 cases that have been previously treated.

Although the state appropriation was not increased by the last Legislature, a sum of money raised throughout the state by a popular campaign last fall conducted by the Kentucky Society for Crippled Children has enabled the Commission to handle a larger number of children during the past year than in any one year since the work began. For several months over 200 cases were receiving treatment in the hospitals in Ashland, Lexington, and Louisville. An average of 175 cases is under treatment monthly. To date 1,911 children have been treated by the Commission since 1925. This includes 179 cases now in the hospitals.

Nine clinics were held by the Commission during the spring and summer months. A total of 925 crippled children were examined. Thirty per cent of this number comprised old cases that had been previously treated and returned to the clinics for re-examination. Thirty-two per cent of these old cases could be pronounced, "discharged," meaning that they had reached the maximum correction possible.

Diagnosis of the cases examined at the summer clinics showed the following deformities present.

Diagnosis	Number Examined	Percentage
Infantile paralysis	279	30%
Congenital deformities	147	16%
Spastic paralysis	85	9%
Other forms of paralysis	68	7%
Mental and non-orthopedic	81	9%
Tuberculosis of bone	61	7%
Injuries	48	5%
Rickets	31	3%
Arthritis	30	3%
Osteomyelitis	26	3%
Scoliosis	13	2%
Miscellanous	56	6%
	925	100%

The Commission's policy is to keep as close an observation as possible on all cases that have received treatment, and such cases are urged to attend each clinic that is held, so that the Field Nurses may be assisted with their tremendous task of home visiting. The greatest improvement noted at the clinics has been in the old cases that have received periodic physical examination, and whose parents have co-operated most conscientiously in carrying out instructions given by the doctor or nurses.

During the past month three more clinics have been conducted by the Commission, but statistics upon these clinics are not yet available.

A total of twelve clinics have been held by the Commission since last April. The place of each clinic, counties included, and number examined are as follows:

Town—Louisville; Counties included—Jefferson, Oldham, Shelby, Bullitt. Cases examined, 205.

Town—Mt. Sterling; Counties included—Clark, Bath, Montgomery, Menifee, Powell, Rowan, Wolfe. Cases examined, 102.

Town—Owensboro; Counties included—Daviess, Ohio, Hancock. Cases examined, 108.

Town—Central City; Counties included—Muhlenberg, McLean, Ohio. Cases examined, 80.

Town—Mayfield; Counties included—Fulton, Calloway, Lyon, McCracken, Livingston, Marshall, Ballard, Hickman, Carlisle, Crittenden. Cases examined, 95.

Town — Danville; Counties included—Boyle, Casey, Lincoln, Garrard, Mercer. Cases examined, 85.

Town — Covington; Counties included—Campbell, Kenton, Boone, Grant, Pendleton. Cases examined, 64.

Town—Bowling Green; Counties included—Warren, Logan, Butler, Edmonson, Simpson. Cases examined, 103.

Town—Berea; Counties included—Jackson, Madison, Rockcastle. Cases examined, 83.

Town—Ashland; Counties included—Boyd, Carter, Greenup, Elliott, Lawrence, Martin. Cases examined, 112.

Town—Somerset; Counties included—Clinton, Russell, Pulaski, McCreary, Wayne. Cases examined, 56.

Town—Glasgow; Counties included—Allen, Barren, Cumberland, Monroe, Metcalfe, Hart. Cases examined, 81.

Total examined, 1,174.

A clinic will be held at Maysville this week, and at Hazard sometime in November.

The fact that each clinic reveals so large a number of new cases never before recorded, makes the Commission believe that the original estimate of 12,000 crippled children in Kentucky is too conservative.

As the work of the Commission is becoming better known the attendance at clinics apparently is on the increase, which would seem to indicate progress in the education of the public regarding the treatment of crippled children. Many cases now present themselves at the clinics whose parents have formerly been skeptical concerning even an examination of the deformity. One corrected case returned to a country community will do more toward "selling" crippled children's work than hours of talk on the part of a field worker.

Dr. J. D. Trawick,
Dr. W. M. Brown,
Dr. W. B. Owen, Chairman

SECRETARY M'CORMACK: Mr. President, in calling your attention to the work of the Crippled Children's Commission and of the orthopedic members of our profession who are associated with it, I want to say it is one of the outstanding pieces of remedial work being done not only in this country but anywhere.

Recently members of the Commission and those associated with it, by special invitation have entered the National Society of Crippled Childern at Geneva and have made their contributions there. All of the members have been invited to other states with a similar program, and the work of this Commission has been recognized as a model on which this work could well be based. The work has been done so economically and so effectively that I know it receives the support of every man who knows anything about it.

PRESIDENT BLACKBURN: We will now have the Report of the Editor.

Report of the Editor

SECRETARY M'CORMACK: I have no report to submit for the Journal. This year the Journal has contained a larger number of essays than it has heretofore. The work has been extremely pleasant because you have made it pleasant in sending in excellent papers. I think we have had the best Journal in every respect for the present year that we have ever had.

PRESIDENT BLACKBURN: General discussion of the Journal. Is there any member of the House of Delegates who has any point regarding the Journal, its make-up, its management, its content; and so on? We would be glad to hear from anyone who at this time wants to say anything regarding this.

If there is no further discussion, this matter will be passed.

SECRETARY M'CORMACK: Mr. President, I want to ask for unanimous consent that Dr. Long be allowed to make a motion at this time.

PRESIDENT BLACKBURN: If there is no objection, Dr. Long will be allowed to make the motion.

DR. H. W. LONG: The Jefferson County Medical Society invited the Southern Medical Association to hold its 1930 session here a year from next month. I move that in addition to the invitation from the Jefferson County Medical Society that there be one coupled with it from the Kentucky State Medical Association.

SECRETARY M'CORMACK: I second the motion. The motion was carried.

PRESIDENT BLACKBURN: We will now have the report of the Committee on Legislation and Public Policy.

SECRETARY M'CORMACK: Dr. Abell asked to have that deferred until the night session.

Report of the Committee on Medical Ethics, Dr. D. C. McClure, of Elizabethtown, Chairman, (Absent).

Report of the Committee on Prevention of Goiter, Dr. Elmore, of Louisville.

Report of Committee on Prevention of Goiter

DR. R. R. ELMORE, Louisville: Mr. Chairman and Gentlemen: I am very much in the position of the ambitious amateur writer who said if she just had something to write about she would be fortunate. If I had something to report about the activities of this committee, I would be very well satisfied. I have a few remarks made on the subject of iodine which may be of passing interest to some of you.

Your committee on the prevention of goiter is unable to present a report characterized by constructive and progressive features desired. We hope eventually to get some form of an annual survey among school children that will give us at least a general index as to prevalence of goiters in the different sections of Kentucky.

We offer the following information on iodine and goiter for what it is worth.

No better method—in fact—no method of any kind has been advanced to prevent goiter other than the administration of iodine preferably during the period of adolescence.

Reflecting on the wide spread use of iodine as a prevention of goiter, raises the question, as to what effect the prolonged use of iodine has on the normal functions of the body. So far as we know no one has been disposed to indict iodine administration as the causative factor in deterimental effects—provided that the proper dosage and regulations are carried out. It is always to be borne in mind, however, that there are persons susceptible to the influence of iodine that may develop some idiosyncrasy from the indiscriminate or excessive use of iodine.

Excellent observation on the prolonged use of iodine in rats has been made by Hanzlik.

To a sufficiency diet was added sodium iodide to correspond to an amount of 3 and ½ grains to (70kg) 150 lbs. in man. This was continued for a long period—relative to 1-7 to 3-4 of the span of life in rats. With a constant effect of producing a moderate but variable increase in weight in growth of the body in the majority of animals—the same tendency was observed on a deficiency diet.

In contrast, with the above, the controls given salts of sulphocyanate—bromide—arsenic—thallium and mangenese lost weight and growth and even life.

Based, on the above facts, an editorial in the Journal of the A. M. A. concludes that the prolonged use of iodine in small doses is not detrimental—but on the contrary is beneficial—except in specific conditions of thyroid or too large doses of iodine.

A study of the influence of giving 1mg, of iodine to cows, develops the fact that when iodine is given with the fodder after the morning milking, the milk glands are stimulated to give more milk in the evening than in the morning, which is the reverse of the usual custom.

Milk production in cows and goats is greater in these animals receiving iodine than in the controls not receiving iodine. Fertility was also improved, the number of calves in iodionized cows was 1%, in control was 6 and 7%.

Kendall, of Rochester, Minn., reports a seasonal and geographic variations in iodine and thyroxin of thyroid tissue. 100 lbs. of fresh hog thyroid glands may have as little as 14 gm. in January and in February and as much as 40 gms. in July and August. No variation was observed in English and Scottish glands—this may be a question of diet.

However it is well to keep in mind, that some efforts are being made to decry the use of iodine as a prevention, as shown by the following extracts.

Oswell, a German writer, relates that Prevost, in 1849 suggested a relationship between iodine deficiency and endemic goiter and reviews the different theories since then and concludes that iodine deficiency has no etiological relationship to endemic goiter, and its administration for goiter prevention rests on an empiric basis—but urges that on the basis of results, that it be continued.

Lick, also a German writer, described this age as the "iodine flood" in spite of which, the incident of goiter has increased.

Turlow writing in the London Lancet, in December, 1927, reports that in one goiterous area, a large number of goiters in children 8 to 17 years of age decreased in size or disappeared without aid of iodine and asserts that what ever the cause of goiter may be, iodine deficiency cannot be the cause and protests the use of ioline as a prophylaxis and treatment. Asserting that goiters in children are nothing more than physiological swellings and that it is impertinence to interfere with them.

Some European writers urge girls visiting Switzerland, not to drink unboiled water or to eat uncooked vegetables as they are said to produce goiter in susceptible people.

I mention these views, not because they are regarded seriously, but to illustrate how feeble are the efforts of these, opposed to the iodine deficiency theory of goiter, according to the best information available.

In any community, in which there is a deficiency of iodine in food and water, there is also a larger number of goiters, than in a community where there is a richer value of iodine.

In patients subject to goiter, the amount of iodine in the thyroid gland and in the excreta of urine and faces is less than that found in normal individuals.

In view of these facts, your committee, is of the opinion that it can consistently advise the administration of iodine as a prevention of goiter. Always bearing in mind that the dosage should be small and interrupted—that is a daily dose, for from 10 to 12 days twice yearly or a weekly dose during such periods as puberty—pregnancy—lactation and the menapause.

Dr. Richard R. Elmore, Louisville,
Chairman
Dr. C. A. Vance, Lexington,
Dr. L. Wallace Frank, Louisville,
Dr. E. W. Jackson, Paducah,
Dr. P. C. Sanders, Danville.

SECRETARY M'CORMACK: I move that the report be accepted.

The motion was seconded and carried.

PRESIDENT BLACKBURN: Do any gentlemen care to discuss this particular report as to the prevention of goiter by the use of iodine? If not, we will hear the report of the Committee on Military Medicine, Dr. Virgil E. Simpson, of Louisville, Chairman.

Report of Committee on Military Medicine

DR. V. E. SIMPSON, Louisville: The Committee has no report to make at present. The only thing we would like to do is to say to the House of Delegates if they have anything for consideration for the later report to be made in the House, we would be glad to hear it.

PRESIDENT BLACKBURN: Report of the Committee on Constitution and By-Laws, Dr. McChord. (Absent).

The report of the Committee on Resolutions, Dr. L. C. Redmon, of Lexington.

DR. L. C. REDMON: The Committee has no report yet.

PRESIDENT BLACKBURN: That will be passed to a later session and called for again.

Report of the Committee on Miscellaneous Business, Dr. B. F. Zimmerman, of Louisville.

REPORT OF COMMITTEE ON MISCELLANEOUS BUSINESS

DR. B. F. ZIMMERMAN, Louisville: Mr. President, a few days ago I received a letter from the Secretary appointing me as Chairman of the Committee on Miscellaneous Business. The Committee did a lot of hard work. I was unable to communicate with the other members of the Committee. I expect to see them today. Dr Stites and I had a meeting in the Louis XVI room. After waiting about half an hour, trying to flatter myself that we were the House of Delegates, we were informed by Dr. Blackerby that the House of Delegates were meeting on the roof garden. However, I have not been able to confer with the other gentlemen of the committee. It strikes me that possibly the rights of the committee have been usurped because we certainly have had a lot of miscellaneous reports. That is all we have at present. (Laughter).

PRESIDENT BLACKBURN: That takes up all the reports for this particular session of the House of Delegates.

DR. V. E. SIMPSON, Louisville: May I say just a word in connection with these committees and their reports in the matter of their appointments. Last Friday morning in the morning mail I received a notice from the Secretary of this State Association, informing me I was Chairman of the Committee on Military Affairs or whatever it is. If this House is to seriously consider matters which are considered to be of sufficient importance to have a committee assigned for the consideration of such matters, it would seem that a reasonable time ought to elapse from the time of their appointment and the time of the meeting of the House of Delegates, particularly with reference to such committees as this and others which would require some time for investigation. Of course the committee on membership, contests and things of that sort, has to act now, but I knew nothing about these committees' activities. I know nothing about any complaints that may exist in the minds of any of the membership of the State Society with regard to the way veterans have been treated. It would be a waste of time for this committee to inject out of its inner consciousness and submit for your consideration what might be done. I am not familiar with the workings of the Veterans' Bureau at the present time as perhaps are the members of the committee that belong to this group. It does seem there would be no difficulty attached to the rule of having such committees as ought to have some time to consider the problems assigned to them made sufficiently long before the time of the annual meeting to have the matter digested, and then present a report that would really be worth the serious consideration of the House of Delegates. To appoint a committee two or three days before a meeting of this sort is merely making a gesture. It does seem that the President could easily arrange to name these committees some months in advance of the annual meeting. I make that as a suggestion.

SECRETARY M'CORMACK: Mr. President, Dr. Simpson's suggestion, as all of his suggestions, is valuable. We have tried both plans. The difficulty has been in the past, and the reason for the present appointment of committees (which conform to the usage in the American Medical Association with reference to committees for the annual session, which are appointed on the morning of the meeting of the Association); was because in Jefferson County and two or three other county medical societies of the state, the delegates are not elected until the first of the fall meeting, and when we attempted for several years to appoint the committees three or four months in advance, as has been done on several occasions, and when we got our most valuable reports, of course, there was no representation from the medical society which contained a third of the members of the state. This caused objection on the part of Jefferson County, and two or three of the other largest societies. For that reason the usage for the last two or three years has conformed to their wishes in regard to the matter.

If arrangements could be made to appoint delegates sufficiently far in advance to enable the President to make appointments in accordance with Dr. Simpson's suggestion, I have no doubt that our reports would be far more valuable because the members of the committees would then have the opportunity to digest the material in the Secretary's office and secure such other data as they need to make very much fuller reports, but something, I think, would have to be done in order in particular to have the benefit of the membership on the committees as representatives particularly in the Campbell-Kenton and other societies who make their appointments late in the year. We only received the list of delegates from Jefferson County within the last ten days. The appointments were made as soon after that as possible.

PRESIDENT BLACKBURN: Is there further discussion of this matter, gentlemen? Is there any other business?

DR. W. E. GARDNER, Louisville: Relative to trying to get all the county medical societies to elect their delegates during the spring or early summer, before they adjourn for the summer, I believe that could be accomplished if all were instructed to elect their delegates in April or May, some particular month, if there is nothing in the Constitution that would prevent such procedure.

PRESIDENT BLACKBURN: I think, gentlemen, if I am familiar with the Constitution and By-Laws, we are presumed to elect delegates at the first annual meeting of the year.

SECRETARY M'CORMACK: That is the provision.

PRESIDENT BLACKBURN: Yet it is the custom of many of them to elect delegates at the last meeting preceding the annual state meeting.

SECRETARY M'CORMACK: This is the reason for that, of course, on the part of the Jefferson County Society. I was present when the change was made, which was that they elected the beginning of the year, and the meeting wasn't held in Louisville. Members didn't know they were going to attend, and very frequently there was confusion about the list of delegates. It was thought that if the election were held at the preceding meeting, that confusion would be eliminated. However, the provision of the By-laws is definite, and of course ought to be carried out.

PRESIDENT BLACKBURN: Is there further discussion of this matter? Dr. Simpson, would you like to say something or bring a motion regarding that?

DR. V. E. SIMPSON: I merely made a suggestion.

PRESIDENT BLACKBURN: If there is no further business, motion to adjourn is in order. The House of Delegates meets this evening at seven o'clock in this room and tomorrow morning at eight o'clock in this room, and finally on Thursday morning.

A motion was made by Dr. S. C. Smith, seconded and carried that the meeting adjourn.

The meeting adjourned at four-ten o'clock.

SECOND SESSION, MONDAY EVENING OCTOBER 21.

The meeting convened at seven-fifteen o'clock, President Blackburn, presiding.

PRESIDENT BLACKBURN: Gentlemen, the House of Delegates will come to order.

We had to pass a number of committee reports this afternoon, but I think that none of those chairmen are present at this time. We note further the absence of two or three chairmen for committees that might report tonight.

We will now hear the report of the Committee on Medical Education, Dr. W. A. Jenkins, of Louisville, Chairman.

REPORT OF COMMITTEE ON MEDICAL EDUCATION

DR. W. A. JENKINS, Louisville: The Committee on Medical Education of the Kentucky State Medical Association presents the following report for the consideration and action of the Society.

We maintain that medical education should progress along two main lines. (1) The education of good physicians to serve our people, (2) The education of the people themselves.

1. The education of physicians. The responsibility for the health of the public and the advancement of scientific medicine has been placed largely in the hands of the medical fraternity of Kentucky through our Medical School, our Dental School, our School of Pharmacy, our State Board of Health with its various activities, and last but not by any means least the individual efforts of the individual doctors all over our state. A brief review of the things accomplished by our State Board of Health, aided and backed by the members of the Kentucky State Medical Association, offers convincing proof that marked progress has been made, in spite of much difficulty and opposition.

The above mentioned agencies have accomplished a great work in the prevention of communicable diseases. They have educated the public along medical lines, they have spread the gospel of the prevention of disease. The doctors have brought this about by talks, addresses, lectures, public health work, the election of county health officers, etc. The greatest benefit however can be obtained by each doctor in his own community through his influence with his own clientelle. Legislative enactments brought about by the unselfish and altruistic influence of our doctors has done much to clean our own house, to improve the type of doctors that are turned out and to protect the people of Kentucky from charlatans and quacks. All of these activities should be kept up, supported and continued vigorously and untiringly.

2. The Education of the Doctor. Here also great progress has been made. The American Medical Association has rendered a great service in raising the standard of Medical education and in cleaning up and standardizing our Medical schools. The most important work, however, remains as an individual problem for each state in the union to work out. The State Board of Health, the Kentucky State Medical Association and the individual doctors of Kentucky have by se-

curing legislative enactments and by individual work, accomplished much, looking to the proper education of our doctors. Their efforts should continue unabated. We should continue to sponsor Periodic Health Examinations, teaching our people the great value and usefulness of this procedure.

The Post-Graduate Course. This work has already been started. It should be made permanent. It should be conducted by the State Board of Health, the Medical Department of the University of Louisville and the physicians of the city of Louisville conjointly. The program should be prepared ahead of time and should be of such a length and such a character that it will serve to give the doctors out in the state every facility for picking up the newer points in the diagnosis and treatment of disease. The Kentucky State Medical Association should have a permanent Legislative Committee, the membership of which should be elected for a term of at least three years, as consecutive, continuous work is necessary for the obtaining of worth-while results.

Full-time County Health Officers. Our slogan should be "A Full Time Health Officer for each county in Kentucky." And we should keep hammering at it until we obtain this much desired result.

Prenatal work and the routine examination of school children should be pushed vigorously.

Lastly, we have now reached the point in our great work where one important step is plainly indicated viz., the establishment of Health centers or Hospital centers, to improve the medical service of our state, perhaps only a few at first and those to be placed at strategic points where their influence would be most widespread. These hospitals could be manned by the leading members of the locality in which said hospital was located. Such hospital could have one or more internes supplied by our own Medical School. This center would not only take care of the sick and afflicted of the given community, but it would also serve as a center from which would go out a correct and scientific knowledge of the underlying principles of right living. The details of this plan could be worked out as the actual problems arose. State aid would in all probability be necessary for the furtherance of this project.

Your committee earnestly recommends that the State Medical Association go on record as approving this measure by the adoption of suitable resolutions, and that steps be taken at the earliest possible moment to start the machinery in motion with the end in view of consummating this plan.

Your committee has carefully considered the reports of this committee for previous years and also the several reports of the Council on Medical Education and Hospitals of the American Medical Association and the action of that body thereto.

We desire to heartily commend the Medical Department of the University of Louisville under the able administration of Dr. John Walker Moore. No other service of the City of Louisville is more valuable to the people of Kentucky or the Nation. This institution has inherited the great traditions of Kentucky medicine and is ably discharging its functions. We desire to urge upon the University of Louisville and the responsible officials of the city the need for additional facilities so as to educate in our metropolitan university a larger group of the many qualified applicants, who must now, of necessity, be rejected.

We have read with great interest the report of the Council and desire to commend it in principle, as it well states and presents many and difficult problems and it is perfectly evident that the profession must begin to take steps to solve these problems. To this end we recommend that the next General Assembly be requested to build perfectly equipped teaching hospitals for the training of internes and nurses in each of the State Normal Schools and the State University and that a just system of State aid for hospitals and scholarships in pre-medical and fundamental pre-medical education be provided for. The details of such a plan should be absolutely under medical control so that the present high standard of medical education may not only be maintained but may be made higher so that the physicians graduating will be better and better qualified each year to serve the people. Your committee recommends that the recommendations in regard to medical education be referred to the Council with authority to further consider its constructive program and perfect the plans for making it effective.

We desire to recommend to the governing authorities of the State University, of the State Normal Schools and of the University of Louisville a further study of the Quarter System with the hope that it can be made available to Kentucky students with a view to shortening the time and lessening the expense of education. There is no reason from a health standpoint why the vast majority of adolescent and adult students should not be able to take advantage of such a system. (Applause).

W. A. Jenkins, Chairman,
J. W. Scott,
J. G. Gaither.

DR. W. A. JENKINS, Louisville: I should just like to say one word unofficially along this line with reference to this new move. The Council has already gone into this matter at some length. It is over the edge of the horizon already, and if we are going to keep up with other things and give the people of our state the kind of service that they ought to have, that move is just as inevitable as it is for day to follow night. We have community schools, we have community libraries, we have electric lights, electric transmission runs out every way. They are getting good roads. It is just as inevitable that we should begin. This thing shall have to work out in time, hospital centers where the sick can be adequately taken care of and can be quickly moved in, as Dr. Horine has well said, the returned soldiers and others, so that in a matter of a short time we can bring any kind of a desperate case to a hospital center, having a few at first and then gradually working this matter out.

That will bring out some other things that the Council has spoken of. I made mention of these matters informally at the meeting last year, and we are going to have to come to these methods. The sooner we get it the better off we will be. (Applause).

SECRETARY M'CORMACK: Mr. President, I hope we will have very free discussion on this subject. I always like Dr. Jenkins' reports because it doesn't make much difference whether he is appointed three months in advance or a few minutes before the meeting is called to order, he always has his mind in order and presents logical matters that are of interest.

There is nothing before the profession in Kentucky today, or in the nation, that is as important as this subject we are now considering. I know you listened, as you had previously read, the report of the Council this morning with interest. We realize that we are confronted by a situation that we have to furnish a solution for. At the next session of the legislature our salvation lies in the presentation of that solution. Dr. Jenkins, and the report of the Council, together, offer this solution. Fifty-one years ago we began the education of the public in Kentucky in regard to public health. Sometimes from day to day and week to week it looks as though we are moving very, very slowly, accomplishing our purpose very slowly. But as we see the big results that have been secured in that half century we realize that we have accomplished a tremendous lot of our purpose in making our people know not alone the causes of illness, unnecessary and premature deaths, but we made them realize that machinery can be devised by us that will accomplish these very purposes.

Having revealed to them that it can be accomplished, they are naturally insistent that it shall be accomplished and that we shall begin to direct ourselves toward the practical solution of the great problems of preventive medicine as well as continue just as effectively as we are doing today to solve the problems of remedial medicine. In other words, our people realize the unnecessary burden of unnecessary illness, and that that is a burden from which they can be relieved. We are the agency that can reduce it.

When somebody moves the adoption of this report, as I hope he will, I want to move that after it is adopted, it and the report of the Council, which I hope will also be approved, be referred to the Council with instructions to continue to carry out these policies with a view to the solution of the problem that confronts us.

PRESIDENT BLACKBURN: Is there further discussion of this? Do I hear a motion to adopt this report?

DR. C. C. HOWARD, Glasgow: I make a motion to accept it.

DR. J. R. WATHEN, Louisville: I second it.

PRESIDENT BLACKBURN: Is there further discussion of this report, gentlemen?

DR. J. R. WATHEN, Louisville: I didn't have the pleasure of hearing all of Dr. Jenkins' ideas, but I do feel we have reached the time in medical work where there has to be a great change, and I know of no one who has been more far-reaching in his ideas and modern trend than Dr. Jenkins. I am connected with the University of Louisville, in the school he is, although my work is surgical and his is medical. We have been in contact with what we should teach and how the doctors should be better improved. It is a big problem. I was last year appointed on the Board of Trustees on the committee on curriculum to remodel what we are teaching, and that is an enormous problem. Sometimes I think we teach too much of some things and too little of others. We have to make a doctor to cure the sick people. There has been a tendency to do too much and not develop the initiative. There has been a tendency over the country to establish at various centers small hospitals. I think if established properly and well equipped, it would encourage good medical and surgical work. I feel it would benefit the communities, but at the same time is a two-edged sword. It is going to cut both ways. If you let this thing get into politics and let a few run it for their benefit, sooner or later you will ruin the whole thing. Men who are sincere, conscienctious must man these hospitals.

In my opinion, we have just reached the stage at present where post-graduate work should be done in the medical profession in medical science, like the state society. It happens this year that I am on the Program Committee to help formulate this program, and in going over this program the question with us, with Dr. McCormack, the President and others, as we felt we wanted to give something that would be of educational value to every member of the profession, and you notice on this program we have several symposiums on subjects like influenza, subjects like scarlet fever, and diabetes. These are three outstanding sicknesses in the country today that demand attention. The average man busy in his practice hasn't had time to keep up with the procession. Listening to these papers and taking part in the symposiums, we can make this organization a good post-graduate course. There is that tendency all over the country to take post-graduate work. In the small community hospitals it is one of the big things. It gives the men the advantage of studying modern methods of post-graduate work. Our profession will be elevated and improved.

The old style post-graduate school has almost passed out of existence. They center around hospitals as being centered around medical societies. Several states get together and organize societies and devote themselves to clinical work. These hospital centers are being established as the one Dr. Howard has over at Glasgow. He has established an institution which is a credit to that part of the country. From time to time they will call in consultation the men from the outside. What built Johns Hopkins? What has built the great hospitals of Vienna? It is the men in the hospital. The walls don't make the hospital. Johns Hopkins owes it whole reputation to men like Osler, Young and Finney, who live with the hospital, stay with the patients all day long studying their cases, gathering younger men, gathering together post-graduates. They came in and took advantage of the hospital. The hospital is like an automobile. You can abuse it or use it to advantage. I hope, Dr. Howard, that your work wil be used to advantage. (Applause).

PRESIDENT BLACKBURN: Is there further discussion of this motion, gentlemen? If not, those in favor of the adoption of the report of the Committee on Medical Education will say "aye"; contrary "no."

The motion was carried.

DR. C. C. HOWARD, Glasgow: I make a motion that the report of the Council be accepted and the Council be instructed to follow out also the policies suggested in the report of Dr. Jenkins.

The motion was seconded by Dr. Kidd and was carried unanimously.

PRESIDENT BLACKBURN: We will have the report of the Committee on Workmen's Compensation Law, Dr. J. M. Salmon, of Ashland.

Report of Committee on Workmen's Compensation Law

DR. J. M. SALMON, Ashland: Gentlemen, the Kentucky's Workmen's Compensation Law became effective August 1, 1926. It has been amended in 1918, 1920, 1922, 1924 and 1926. The Legislature of 1928 passed a resolution, the important part of which I will read to you:

"A Committee of one member of the House and two other persons appointed by the Speaker of the House and one member of the Senate and two other persons appointed by the President of the Senate is to investigate the present Workmen's Compensation Act and to report in writing its findings in regard to the present act and defects therein and any amendments thereto which they desire to recommend. Such Committee is directed to report its findings to the 1930 General Assembly."

Your Committee was appointed to make recommendations as to any advisable alteration or addition to the present workmen's compensation law to this body in order that it might take such action as may seem best under the circumstances. In approaching this task your Committee has had to consider three interests: First, that of the injured person; second, the interest of those who minister to the injured person, that is the doctors, the hospitals, and thirdly, the interest of the state.

These interests are mutual. If the service of the doctor is to be effective it must be adequately and sufficiently remunerative Services which are not so remunerative are very sure to be incomplete and inadequate, and in turn if the services to the injured person are inadequate, unskilled, then the results are a much longer period of disability for the injured person, in a higher percentage of cases permanent disability. This also, as you can readily see, means an enormous expense for the state, not only in money but in loss of man power and in the necessary rehabilitation which should, if it does not always, follow.

Now just what, in the first place, is the remuneration which the Kentucky Workmen's Compensation affords for the physician in charge of the injured man? Let me read to you Section 4:

"In addition to all other compensation provided, such medical, surgical and hospital treatment, including nursing, medical and surgical supplies and appliances as may be reasonably acquired at the time of the injury and thereafter during the disability, but not exceeding ninety days nor exceeding a total expense to the employer of $100 on account of the benefits provided by this Section, unless the board shall, by order written at that time, direct an extension of the said period of treatment or direct the said limit of expense to not exceeding $200 to cure and relieve from the effects of the injury, shall be furnished by the employer, and in case of his refusal or neglect reasonably to do so the employer shall be liable for the reasonable expense within the limits of this Section incurred by or in behalf of the employee in providing the same.''

So you see that the law provides for $100 to cover the services of the surgeon and the hospital expense in any given case of injury. This amount may be increased to $200 by proper application to the board, but there is no further allotment after the $200 has been expended. It requires very little consideration to picture a case of a fractured thigh, for instance, which requires seven or eight weeks hospitalization in which the hospital bill alone will exceed the $200, leaving nothing whatever for the surgeon, unless an adjustment is made by which the hospital receives a part and the surgeon a part, in any event an unsatisfactory arrangement for both the hospital and the surgeon. It is strange that from 1916 to the present date there has been no alteration in this unjust arrangement. The state of Ohio has looked at it somewhat differently. I want to read to you a little section taken from the bulletin of the Department of Industrial Relations and the Industrial Commission of Ohio:

''The original Workmen's Compensation Act provided for a maximum allowance of $200.'' This was in Ohio. For all medical, hospital and nursing services and medicines $100 is provided by the original provision of Kentucky's Workmen's Compensation Law, and an amendment effective July 28, 1927, one year later, was made. You will notice after the Kentucky Compensation Law was passed, authorizing the Commission to exceed this allowance in unusual cases wherein it is clearly shown that the actual necessary medical, nursing and hospital services and medicines exceed the amount of $200, acting in accordance with this authority the Commission adopted the following rule: ''In unusual cases wherein the sum of $200 is not sufficient to pay the cost of medical, nursing and hospital service and medicines, before any additional sum be disbursed from the State Insurance Fund, it shall be clearly found by the Industrial Commission that such medical, nursing and hospital service and medicines are necessary.''

And so in 1917 the state of Ohio found that $200 was insufficient and made arrangements not for $400 but for an unlimited amount, limited only by the will of the Industrial Commission of Ohio to take care of cases which required long hospitalization and extensive medical treatment.

Therefore, your Committee has considered this point first of all in its recommendations and has recommended that the amount allowed for the treatment of any one case, including medical services and hospital care, be extended to $400 upon proper application.

Now the Workmen's Compensation Bill in Kentucky doesn't make any reference, whatever, to the charges made by the physician for individual services. This is a matter which is left entirely to the discretion of the board, simply that the charges shall be proper, not excessive in the community in which the services are rendered.

In asking for an increased amount for services rendered to injured employees, we found that there is a tendency upon the part of the board to establish some sort of fee bill. They would like very much to have some arrangement made whereby certain amounts shall be specified for the treatment of these injuries. Whether this Association cares to adopt that plan as the state of Ohio has done by a flat fee bill in which a definite sum is allowed for specific injuries, such as a broken leg, a broken arm, office dressings, the first office dressings, the second office dressing, hospital dressings, and so forth, or whether the Association prefers to leave this matter just as it stands, is a matter for its own judgment, but to me and the rest of our Committee it seemed that we would get along better, be much more likely to secure adequate compensation, if we could agree upon a reasonable fee bill. Therefore, we have recommended that such a fee bill be adopted similar, although not identical, to that of the state of Ohio.

The next point which we have considered in this matter has to do with the determination of permanent disability. In our experience this has been one of the most trying problems in connection with industrial surgery. After the injured man has recovered as far as it seems possible for him to do, he is brought before a compensation board and claim is made for permanent disability. The evidence which is taken at that time ranges from the testimony of an ignoramus, a doctor who doesn't know anything at all, to that of an expert. There seems to be no provision at all for any uniform plan of determining what is the degree of permanent disability and appointing an agency by which this degree of permanent disability shall be definitely calculated.

For that reason it has seemed to us that we ought to have a medical board as the state of Ohio has, and that we should restore the office of medical director to the board as it was originally provided. So we have made a recommendation that there shall be a medical board composed of a general surgeon and a neurologist. The Section reads "We recommend the appointment of one general surgeon and one neurologist who, with the medical director, shall constitute a medical board of examiners."

The purpose of this recommendation is not that they shall act in all cases, but when difficult cases come up and the matter of permanent disability must be decided, that decision shall be made by a board of expert people and not by haphazard evidence of people not qualified to make such decisions.

One more thing was considered by your Committee and that is the question of the determination of permanent disability in eye cases. I scarcely feel qualified to speak on that point. Some members of your Committee have come to the conclusion that the degree of permanent disability in certain eye cases, where the percentage of vision varies, is not what it should be, and to that end they have asked that a committee of oculists be appointed by the President of this Association who shall go into that matter, the schedule of degrees of permanent disability allowed in cases of eye injury, and make a report on that one subject.

I will read the complete report of your Committee.

To the Kentucky State Medical Society:

The undersigned Committee, appointed to recommend changes in the Workmen's Compensation Law of Kentucky, respectfully submit the following report:

1. We recommend that Section 4 be changed to increase the limits of the medical expense to Two Hundred Dollars, which may be increased by order of the Board to Four Hundred Dollars.

We also recommend further allowance in case of extraordinary injury necessitating longer and more extensive care and treatment. Such further allowance may be made by the Board upon proper application upon prescribed forms.

2. We recommend the adoption of a Schedule of Fees for surgical services under the Compensation Law. We suggest that this schedule be made similar to the one used by the Industrial Commission of Ohio.

3. We recommend the restoration of the office of Medical Director to the Board.

4. We recommend the appointment of one general surgeon and one neurologist, who, with the Medical Director, shall constitute a Medical Board of Examiners.

This Board of Examiners shall meet at stated intervals and at appointed places for the examination of such cases as may be referred by the Compensation Board.

5. We recommend a reconsideration of the method of obtaining percentage of loss of vision which has been adopted by the Board.

For this purpose, we suggest that a committee of oculists be appointed by the President of the State Medical Society.

Respectfully submitted,
J. M. Salmon, M. D., Chairman.
W. H. Rice, M. D.
C. B. Preston, M. D.
A. J. Bryson, M. D.

SECRETARY M'CORMACK: I move the adoption of the report.

PRESIDENT BLACKBURN: Dr. McCormack has moved the adoption of that report. Do I hear a second to that motion?

DR. W. A. JENKINS: I second the motion.

PRESIDENT BLACKBURN: This is one of the committees appointed earlier, and in view of the character and type of work necessary in forming this report, the Committee was formed of the doctors all from Ashland, Kentucky. Dr. Salmon, Chairman; Dr. Rice, Dr. Bryson and Dr. Preston are members of that Committee. This particular report is open for general discussion.

SECRETARY M'CORMACK: Mr. President, this is one of the most important matters before the profession. When this matter came up for action at the beginning it was at the time when the model workmen's compensation law was being passed in many states, and the employers of Kentucky who were largely responsible for its enactment, felt that the safeguards thrown around expenditures were necessary. They were guided in their actions very largely by the insurance companies. Our employers are practically all insured, all the wise ones are certainly, and they pay exactly the same premium in Kentucky as they pay in the other states. It costs the factory owner or the other employer of labor just exactly the same for the number of employees he has in Kentucky as it does in Ohio.

In the passage of the law, there was the evident shortsightedness that by saving on hospital and nursing and medical expenditures they would be saving money. It is perfectly apparent that this is a fallacy, that a patient with a broken back or fratured skull or a fractured thigh or any of the other serious crushing complications that so frequently occur today, can't be treated in the short time with the small amount of money provided for it by the law. Provision should be made for paying the full hospital bill at ward rates, and separate provisions for reasonable compensation for necessary medical attention. The law in the beginning, provided for a medical director. Unfortunately that section of the law was never effective and it was soon dropped out by amendment. The recommendations of this Committee at this time are particularly opportune because the splendid Commission appointed to consider this matter and report to the next general assembly, is having almost weekly sessions, going into the matter very thoroughly, and they are thoroughly aroused to this particular condition, and the Chairman and Secretary were in the office last week and asked that this Association consider this matter carefully. They hoped it would be discussed fully here by those who were aware of the difficulty, and that they would be guided very largely in the legislation proposed at the next session of the legislature by the advice of this House of Delegates. They have asked that the Committee which has made these recommendations be instructed by the House as to the desires of the medical profession of the state. They realize that we are not following through with these patients, that many of them are left without the completion of their treatment, and they want to make provision so that the board can do exactly as any other employer would, so that the board can go ahead and make the arrangement for the complicated treatment necessary and in some cases extend over a longer period of time so that these people can actually be restored. They want to be guided by the profession in their recommendations. While Dr. Salmon has made the matter clear, if anybody has any suggestions to make to go before the Committee or the Commission, he may take this opportunity of doing so.

PRESIDENT BLACKBURN: Do we hear further discussion, gentlemen, on this subject? There are a number of points and different recommendations in this.

DR. W. M. MARTIN, Harlan: I wish I were able to explain my experience in regard to industrial compensation. I am sure that there are no doctors in any part of Kentucky that have had more trouble with compensation work than the doctors in the eastern part of Kentucky. The doctor's report is very, very clear, but it is one of the hardest propositions. I think, that any state medical society or legislature of any state has to work out. I don't agree with Dr. McCormack. I don't think he knows very much about it, except compensation premiums, if I understand him.

SECRETARY M'CORMACK: Practically all I know is what you told me.

DR. W. M. MARTIN, Harlan: There is a great deal of difference in the premiums. Some of our coal operators have had to absolutely go out of business on account of compensation. There are a great many of our companies that have had to quit carrying compensation with insurance companies and carry it themselves. I know personally that those people have had a hard time. I will say very frankly, as I have said to members of the Compensation Board, that they are not fair; they are not fair to you and they are not fair to me. They make an announcement, "We have to leave the degree of compensation for the doctor, whatever the doctor says." You know gentlemen, that is one of the hardest things in the world to say how much partial permanent disability any man has. That is the hardest thing I have to dig out. I am the originator of this in our part of the country. I won't examine any man for permanent or partial disability, by myself. I won't do it. They say, "Doc, I will be willing to do whatever you say." He would, if you would give him what he wanted. I have tried that hundreds of times.

I am dealing and you are dealing between companies and a private individual. God knows you wouldn't want to take away from an injured man that which is justly due him. I feel you owe this to your country. We call in three doctors on the case. That means that the industry, coal company, or whatever it is, has to pay in the long run these three doctors, two of them in addition to myself, for this examination.

Then I have requested that after we have made our examination, most of them require x-ray examinations, and I have brought pictures into Louisville, tried to be fair to the company and the injured man. I have taken pictures over to Keith, I have taken them over to Enfield for reading, and I get their ideas and then go back and get these doctors together, have a written report from real x-ray men, because there are very few scattered all over the country who know anything about reading an x-ray. I can tell a broken bone, but there are a whole lot of things that I don't know, never will know, don't intend to know and don't hope to know. I suggest that each fellow put down his percentage of permanent partial disability, as he sees it. Put the three together, divide it by three. I find usually we are not very far apart. A great many times we don't have to go back, we are together, twenty-five, forty or fifty per cent.

Here is the greatest trouble we have. Their fellow doesn't know anything about chiropractors. We have chiropractors over there. The Compensation Board is not fair. They say, "We will leave it to you doctors," and then do as in the case of a negro in our town that was run out of the city of Louisville. He stands as high with that board as any of you fellows stand. These are facts. I have told the board that. The chiropractor goes in and is asked a question, "Have you had an x-ray picture of this man?"

"No, sir, I have not. No, I don't have to have x-ray pictures. I don't believe in it."

That board listens to the chiropractor as quickly as it would to the best surgeon in the city of Louisville. That is our experience with them, and I think that is true over the United States. Our companies are not going to be able to operate. The only thing we have in our county for a livelihood is coal, and when that is killed, we are all out of business.

Compensation first began at $2. That means $2 on $100 of the payroll. If that company has a $10,000 pay roll, multiply each $100 by two and you have the compensation paid to the insurance company to take care of their insurance.

Now it has come nearly to eight dollars. If you will just think for a minute, could the companies better invest their money somewhere else rather than in the coal business? That is an experience rating they have, and a lot of doctors in our section of the country are to blame for that high experience. I remember telling doctors back in the beginning. "You are going to kill the hen that laid the golden egg by charging too much."

"It is true," that doctor says, 'in the first legislature in the industrial law they only allowed $100, and that was the limit." Then they saw at the next legislature that that was not enough, and going around they got $100 more.

You take your broken back cases. A great many times—I remember on one occasion four men came out with broken backs. I hospitalized them. There wasn't enough to pay the hospital, much less the doctor, a penny under that law. Here is the great trouble in our section. Doctors charge too much for the little things they do and then compensation is eaten up, how can it be raised in the insurance. They kept raising and kept raising until now I will say that two-thirds of our coal operators can't carry insurance. They have to carry those risks themselves. This, to my way of thinking, is one of the hardest propositions that has ever come before the House of Delegates, as to how you are going to arrange your fees and—I don't know—it is the most puzzling thing that has ever come up.

As an illustration, one member of the board said to me, "Doctor, what is the cause of this condition?"

I said, "In the court house they used to get in a 2 x 4 room and hold these compensation board meetings. It took the whole court house auditorium to accommodate the people that went in there for compensation."

He said, "What are we going to do?"

I said, "This is going to be the biggest thing in the country. If you will allow me I will tell you what it is."

"All right."

"It is the awards of your Compensation Board. You have said on different occasions that you depend on the doctor, that it is up to us to work this out. You get certain doctors over here who have never seen a medical school who were practicing medicine way back yonder before medical laws, and you listen to those fellows and you award that way. That is the solution."

A great many of the miners think that money grows on trees up there. I have lots of them say to me, "Doctor, I wouldn't give a damn if this were coming out of coal operators, but the insurance company has to pay it." There are a few miners who didn't have any more sense than that. Unless some doctors lie to me, they said, "Go ahead and charge, we pay the insurance and it doesn't cost us any more," but when they began to raise it from $2 to $8 the coal operators began to see where they stood.

I see this as a solution that I don't think the House of Delegates of the Kentucky State Medical Society can work out. I think that the solution lies more in the hands of the Governor of the State, the man who makes these appointments, who appoints the board. Whenever he gets men on that board who are out of politics, that will be one solution. I know, and I am telling you just as I see it. I have worked with it ever since it has been a law, and it is a solution.

I did appreciate that report. There are things in it as true as gospel. I don't think we could have had a better report, but I think the doctor who read it (I think he will agree with me) is over at Ashland, where there is a great deal of industrial insurance that this Society will never be able to work out. (Applause).

PRESIDENT BLACKBURN: Any further discussion, gentlemen, on any phase of this report?

It has been moved and seconded that this report be adopted.

DR. J. M. SALMON, Ashland: I am very much interested in this business because I have been doing this kind of work for thirty years and was very much pleased with Dr. Martin's remarks. They are all very true, but that doesn't prevent us from finding a solution, and for the very reasons that he mentioned there, I want to recommend again that we adopt a flat fee schedule for payment for compensation injuries. If a man has a broken finger or a broken leg, the charge should be made for that injury, not for the number of office dressings. Of course it is a thankless task to even insinuate that there are doctors who will do a great many unnecessary dressings, but any man who has worked in the industrial field will know that you will have one doctor amputate a finger and maybe dress it two or three times at most, and the man is well and that is the end of it, and there will be another patient coming to the doctor every day for weeks with a regular office charge for so much a dressing. That is a necessary expense and one that we might just as well look in the face.

If you have a fixed flat fee for certain injuries you will bring about a condition by which the injured man will receive better service, and you will get a better surgeon and have better surgical work done than if you paid for it by the number of dressings that each case receives. I don't think anyone who has had experience in this kind of work can deny that. It seems, of course, that some of the fees are low in some of these schedules. If we had a reasonable flat fee schedule, I am sure we would reduce the expense very much, and those who are doing the work would be better off in the long run.

As to whether this House of Delegates can settle this question, that is not the important point, but the thing that this House of Delegates can do is to make a recommendation. If the House of Delegates will make a recommendation to this board appointed by the legislature for consideration of the amendment of the Compensation Law it will have done all I think it should attempt to do, and that is what I hope it will do. (Applause).

PRESIDENT BLACKBURN: Is there further discussion, gentlemen? If not, are you ready for the question?

DR. W. M. MARTIN, Harlan: If I understand Dr. Salmon regarding working out a schedule of fees, it is like the railroad company except you would not expect to have the same fee bill that you would expect of a railroad company because there are others that the railroad company gives you, but I should like to make this motion, that a committee be appointed, if the House of Delegates believe that is the best way to do it, to make the fee.

PRESIDENT BLACKBURN: That is what this recommendation contemplates.

DR. J. M. SALMON, Ashland: This fee bill made out is made out by the state medical society, not necessarily this committee. That ought to represent different parts of the state.

PRESIDENT BLACKBURN: I think, gentlemen, if I understood the recommendations, one of the recommendations was that a committee be appointed to work out a uniform flat fee bill for certain types of service; also this report carries with it the recommendation that a committee of oculists be appointed to determine the degree of disability in certain types of eye injuries. Is that right, Dr. Salmon?

DR. J. M. SALMON, Ashland: To revise the present schedule of disability in the Kentucky Compensation Law.

PRESIDENT BLACKBURN: Are you ready for the question? All in favor of the adoption of this report of the committee on the Workmen's Compensation Act will make it known by saying "aye"; contrary "no." It is carried unanimously.

SECRETARY M'CORMACK: I should like to move that this committee be continued, authorized to select such additional subcommittees as may be necessary to work out the resolution and make the necessary presentations both to the commission and to the legislature and to the commission following enactment of new laws.

PRESIDENT BLACKBURN: You have heard that motion carrying out the idea expressed in this resolution and suggested by Dr. Martin.

DR. J. M. SALMON, Ashland: I really think it would probably be better if the committee were made more representative of the state of Kentucky.

PRESIDENT BLACKBURN: He suggested this committee and such subcommittees as you saw fit to select.

SECRETARY M'CORMACK: I think the idea that has been worked out here has been done frequently by the Association before. If you select one man at Paducah, Ashland, Louisville, Hopkinsville, it is practically impossible to get them together. You have a committee of splendid men who have worked hard on it. Select such advisors as you desire over the state. Do such correspondence as you find necessary, and then you together formulate the plan. You are right there together and working on this proposition, and work on it wisely because you are the men who are representing in a large sense of the word the employer, employee, public and the profession. You arrive at a just conclusion after weighing all the evidence. It just seems to me to make a practical suggestion that would be utterly impracticable if done by a general committee.

PRESIDENT BLACKBURN: Do I hear a second to that motion of Dr. McCormack's?

DR. B. F. ZIMMERMAN, Louisville: I second the motion.

PRESIDENT BLACKBURN: It has been moved and seconded that this committee which has reported this evening select other subcommittees, and they work in conjunction and suggest a uniform flat fee bill for certain types of service under the Workmen's Compensation.

All in favor of that motion will make it known by saying "aye"; opposed "no." It is unanimously carried.

Report of Committee on Post-Graduate Course

DR. P. F. BARBOUR, Louisville: Your Commmittee for the Post-Graduate Course begs to report that a two weeks Course of Lectures was held from July 8th to 20. The attendance was forty-five. The great majority were from Kentucky though a few were from Ohio, Indiana, West Virgina and Texas. The doctors were appreciative of the work and several of them were repeaters as they had attended the Course of the previous year. The committee wishes to express its appreciation to the doctors in Louisville and in the State who so faithfully held clinics and lectured; for the entertainment by the Children's Free Hospital and Waverly Hill Sanatorium and to the personnel of the Kentucky State Board of Health for their suggestions and attention to details which made everything go off without friction.

The Committee would like to recommend that the Course be continued each year. The lecturers who have given so freely of their time to make the Course a success, have expressed themselves willing to co-operate each year with the State Association.

The Committee would also like to recommend if it be feasible that brief abstracts of the lectures and clinics be printed in the Journal of the State Medical Association so that those who have been unable to attend the Course may benefit by it.

Respectfully submitted,
Philip F. Barbour, Chairman,
Owsley Grant,
G. A. Hendon.

DR. P. F. BARBOUR, Louisville: Mr. Chairman, I would like to amplify that a little bit saying that there are over fifty doctors throughout the state, including Dr. Blackburn, Dr. McChord, Dr. Griffith, and about fifty men in Louisville, who gave of their time willingly, generously and freely to make this course a success, and the men who attended it have been very appreciative of the work that has been done. The Committee feels that it should be continued from year to year, and they have rather formulated a plan for the new committee, looking to an increased variety of work. It is a right hard thing to get fifty or sixty doctors, as we have been doing, to give of their time, take an hour or more of their valuable time to come down to deliver these lectures, but they have gladly done it. We have thought it woudd be helpful if the doctors in Louisville would give us a little bit more intensive work, and we have tentatively drawn up a program by which the surgeons will be given six or eight hours, the medical man, the pediatrician and obstetrician, during the course, so that if a man wants to get some intensive work along any line he will be able to do so.

That has been the only constructive criticism I have heard about the course that it was too general in its nature, and we hope by this plan that the man will get some special instructors on any phase of medicine that we should be able to give him, of five or six additional hours of work in the second week of the course. (Applause).

PRESIDENT BLACKBURN: Gentlemen, if there is no discussion on this report it will be adopted as read, which has been the custom with most of these reports. Our Secretary thinks this ought to be formally adopted. Do I hear a motion to that effect?

DR. O. R. KIDD, Paducah: I move that the report of the Committee on Post-Graduate Course be adopted as read.

The motion was seconded and carried.

SECRETARY M'CORMACK: I move that the Committee be continued and authorized to conduct the course for the next year in accordance with the recommendations just adopted.

PRESIDENT BLACKBURN: You have heard the motion, gentlemen. Do I hear a second to that motion?

DR. IRVIN ABELL, Louisville: I second the motion.

The motion was carried.

PRESIDENT BLACKBURN: Dr. Gardner, the Committee on Scientific and Commercial Exhibits will now give his report.

Report of Committee on Scientific and Commercial Exhibits

DR. W. E. GARDNER, Louisville: We have no formal report to make, Dr. Martin, Dr. Kinnaird, and I, as members of this Committee, except to call attention of the members to the commercial exhibit and request when they have time they inspect their wares. They pay a considerable portion of the expense of the meeting, and it has always been the policy of the Association to admit the high class exhibitors. We feel that the exhibit this year will be somewhat in keeping. It doesn't seem very large yet, but I imagine it will increase in the next day or so.

PRESIDENT BLACKBURN: Report of the Committee on Periodic Health Examination, Dr. Frank M. Stites.

DR. F. M. STITES, Louisville: I should like to save this report until later when the other members of the Committee have arrived.

PRESIDENT BLACKBURN: That will be passed then until later.

Dr. Hanes, are you ready with your report of the Medical Students' Loan Fund?

Report of Committee on Students' Loan Fund

DR. GRANVILLE S. HANES, Louisville:

Mr. President, when I was informed that I would act as Chairman of this Committee I realized at once that I had no definite information and that I wouldn't try to get any. I knew also that Dr. South was very familiar with this subject and very much interested in it, and knowing again that she was going to ask me for $25, I just have referred the matter entirely to her and I am going to get all the honor I can out of it because I have to pay her $25, and let her do the work and she will make the report. (Applause).

DR. L. H. SOUTH, Louisville: I hope Dr. Hanes doesn't think he is going to get off with $25 for the Student Fund. That is one of the reasons we have Dr. Hanes on this Committee. Dr. Hanes asked me if I would investigate the situation of the Student Loan Fund for him in other organizations, so I wrote letters to the General Federation of Women's Clubs and the State Federation of Women's Clubs and then to the various organizations in Louisville. I found that our State Federation of Women's Clubs inaugurated two years ago a Student Loan Fund to lend Kentucky girls any small amount of money to help them with their education. In Louisville the Parent Teachers' organization and the girls' high school alumni have a student loan fund and also they have a student loan fund connected with the Western State Normal. The student loan fund in Louisville, they tell me, has been conductd for over a period of about ten years, and a student has never yet refused to refund the money.

I want to tell you that I suggested the student loan fund to the State Normal School due to my practice among the students there, seeing the terrific struggle, some of them had to maintain themselves. President Cherry now has $80,000 to lend those students and benefited last year 2,700 students and in the report he sent me last week he said they have not yet had a student fail to return money. In the school for laboratory technicians we have eight student loan funds and we have graduated twenty-five girls and they have all paid back the money given to them.

Dr. Hanes wrote a little editorial and published it in last month's JOURNAL, giving the members of the committee and what our ideas and objects were. As soon as that editorial was published we received a letter from Henderson County Medical Society saying that they thought it was one best project the Kentucky State Medical Association was doing and they want to go on record as being the first society to endorse it and send a check for $25. This fund is to be deposited with the usual fund of the Kentucky State Medical Association and to be dispensed by the House of Delegates and by the Council. We are to solicit funds from the members of the county society and from the members of the alumni of the University of Louisville. This student fund is to be given the Kentucky boys and girls for the Kentucky University.

The Committee felt if we paid a sufficient sum to a boy or to a girl to give them their entire education they would have the privilege of asking that boy or girl to go to a community where there were no physicians and to stay there until they made money enough to refund the loan. I recently met a doctor from the eastern part of Kentucky and he told me he gave a boy $4,000 to take a medical course. He said that boy went to a certain section of the state that he designated and in two years paid back the $4,000.

I said, "Doctor, I hardly believe that."

He said, "It is absolutely true. I am going to will $50,000 to the student loan fund."

I think this is really one of the forward movements that the Kentucky State Medical Association has taken part in. Dr. Moore said, that a medical student in some unfortunate circumstances, that may occur in his Junior or Senior year and he absolutely needs $100 to finish the school and he just cannot get it anywhere. By this fund we are aiming to help those worthy boys and girls, lending them $50, $100 , $200, or probably $300, as the Committee thinks fit to do. I have had so much experience the last seven years with young boys and girls trying to get an education, that I have really become more and more favorably impressed with a loan fund.

For instance, relative to the laboratory course, I think there is not a day that goes by without a girl asking. "Is there any way I can come to Louisville and take the laboratory course? I will pay you back." I give as many tuitions as I possibly can. I have no way of giving board and room to the girls. I can give them only their tuition. We have a student loan fund for that. We can give the girls their tuition fee for the laboratory course after we have made enough money to pay the expenses of the laboratories. I feel if the Association can finance some worthy boy and girl through their medical education we will be doing a great service, not only to ourselves but to these young students, and I feel since we have gotten this letter from Henderson County that we will have no difficulty in getting this money for these students.

The question came up in a great many minds, "Will these students pay it back?" Student loan funds have been made to 2,700 students in the Western State Normal and not a nickel has been lost. I have given twenty-five girls and boys in my laboratory course student loan funds and I have never lost a nickel. The girls' high school alumni have had no difficulty. The Parent-Teachers' organizations have had no difficulty whatever with this student loan fund. I am sure that the boy and girl who now has the courage (and I am going to say courage) to take the course certainly would have the courage to refund the money. I know in the college I graduated from they have had the student loan fund since 1850 and they have had no difficulty whatever in collecting the money. So we feel we can appeal to the physicians, appeal to the parents. We ought to appeal to those doctors who have no responsibilities in life, doctors who are bachelors, widowers, or something like that, who can give up this money to help educate some of these less fortunate students, so I am hoping that we can make a better report to this organization next year. Dr. Hanes and the rest of the members of the Committee are going to try to make an effort this year to secure enough to furnish a course towards educating a student. I hope you all will help us when we make that appeal to you. What we want is some funds. I hope we can get at least $1,200 to start out with and gradually increase that and never renew our appeals until we get enough money to see one student through anyway. (Applause).

PRESIDENT BLACKBURN: I just want to call your attention to the fact that our President-Elect with his usual modesty suggested his willingness to contribute $25 when in truth he is contemplating later on giving us $50,000 for this fund. (Applause). I think he won't fall down on us. He won't disappoint the profession.

If there is no particular recommendation, Dr. South, in your report, it will be adopted as read. We would be glad to have any discussion on this report. Are there any bachelors here who want to add something to this in the way of discussion or a check? We are in a receptive mood tonight.

DR. G. S. HANES: Dr. South inferred that bachelors and widowers and those who have no tangible families (laughter) have no responsibilities. She has never tried a bachelor's life. I just want to say that. (Laughter).

PRESIDENT BLACKBURN: Is there any further discussion? Gentlemen, this report will be adopted as read in view of no discussion.

DR. L. H. SOUTH, Louisville: This money is loaned without interest; it is just simply a loan of honor. It is simply loaned to the student without any interest, and that student pays it back as soon as he possibly can. I remember one instance in the girls' high school alumni where the girl paid back at five dollars a month. As her salary increased she paid back more. In one instance in the fund the girl paid $75 a month. She had a good position which paid $150 a month. She was formerly assistant professor of chemistry and paid $75 a month. Out of that she had to pay her maintenance. She took the laboratory course and when she completed it she received $150 a month and complete maintenance. She still has that position and has repaid the loan.

I should like for the members to discuss the question of what they think about it, what you think about it. I should like for each county society in the state to guarantee so much money or raise so much money. The tuition fee is $300 and $1,200 would pay the tuition for four years.

PRESIDENT BLACKBURN: Does any gentlemen present want to discuss this further, express an opinion? If not, we will pass on to the next report. We will hear the report of the Committee on Legislation and Public Policy, Dr. Irvin Abell, of Louisville, a report that was passed this afternoon.

REPORT OF COMMITTEE ON LEGISLATION AND PUBLIC POLICY

DR. IRVIN ABELL, Louisville: The Committee on Legislation and Public Policy has enjoyed during the past year a much appreciated period of quietude and tranquility. With your indulgence we would invite your attention to that part of the report of the Council which stresses the fact that the people of Kentucky have delegated to the State Medical Association the responsibility for the public health. It is with justifiable pride we submit that this responsibility has been discharged in fullest measure both intelligently and scientifically, affording the citizens of this commonwealth adequate protective measures for the conservation of their health and the prevention of disease. The members of the State Medical Association welcome the assumption of this responsibility and regard the confidence reposed in them by their fellow citizens as a sacred trust. Each member should lend his earnest support to the health measures of the association and, as well, both to the acquisition and to the maintenance of the appropriations which enable such measures to be carried out on an efficient basis.

Dr. Irvin Abell, Chairman.
Dr. J. D. Whiteaker, Cannel City.
Dr. Claud Youtsey, Newport.
Dr. J. H. Blackburn, Pres., Ex-officio.
Dr. A. T. McCormack, Sec'y, Ex-offico.

PRESIDENT BLACKBURN: You have heard this report on legislation and public policy. This is one of the committees whose reports are usually formally adopted. Let me hear a motion to that effect.

DR. C. W. HIBBITT, Louisville: I move its adoption.

DR. O. R. KIDD, Paducah: I second the motion.

PRESIDENT BLACKBURN: Is there any discussion of this report gentlemen?

The motion was carried.

PRESIDENT BLACKBURN: Gentlemen, I think we are about caught up with our reports of committees at this time. I feel that it is worth the while of the House of Delegates to know something of the work that is being done by a gentleman who has been secured to do certain publicity work, Mr. J. F. Blackerby. We would like to have Mr. Blackerby tell us in a few minutes something of the work he has been doing within the last few months.

MR. J. F. BLACKERBY: Mr. President and Gentlemen of the House of Delegates. I hesitate to take up any of your time in talking to you about the matters relative to the work of the medical profession and the association of the state. The fact is that nearly everything, every phase of the work that I have had anything to do with, or am familiar with, has been touched on in some of these reports. I do believe, however, that there is one thing the average physician in the state and perhaps the Association as a whole hasn't attained, and that is a firm grasp so as to be an inspiring force in selling it to the public, and that is the question of preventive medicine.

When you heard in the report of the Council that we had been able to organize forty-two full-time health departments in the state, I wonder if it occurred to you relative to the conditions that made this thing possible. The House of Delegates have been on record for a number of years as advocating, endorsing, lending their aid in every way possible to the establishment of full-time health departments as a means of bringing to the public the benefits and advantages of modern, scientific medical development. Personally you have exploited that idea to your people. If that were not true it would be wholly impossible to sell a full-time health department to any fiscal court in the state. When you are talking to a fiscal court and asking them to appropriate county funds for a full-time health department you have to do it on the basis of bringing to the people of their county the benefits of scientific development that will prevent unnecessary sickness. I have yet to find the first county medical society, or the first individual doctor that we called upon, that will not, before a fiscal court or a public gathering endorse the idea of a public health department and recommend it to the fiscal court and to the people of his county.

Do we really believe when we are advocating this thing that we can bring to our people the means of preventing unnecessary sickness, or are we still lingering in that wilderness of remedial medicine and holding in our minds as the uppermost thought of our service to the people the things that we can do for them to restore them to life and health after they have been stricken? I find in talking to the young men that are in college and have come out of college that they haven't the least conception in the world of this idea of preventive medicine. We are talking about organizing hospitals in various sections of the state, and are we as doctors (I speak as a doctor; while I haven't any degree I have been raised in a doctor's family and know the doctor's viewpoint), as we talk about organizing and establishing these hospitals in the various sections of the state for the benefit of the people, thinking solely of providing a place where we can bring in the sick and injured and take care of them, or have we the larger vision of providing places where in addition to that service which is necessary we can use it as a place for disseminating this public health education we are talking about?

Our people are being sold on this idea. We are called on to provide the means of bringing to them the benefit of this. In everything we do, looking to the education of the doctor of the future, looking to the establishment of the hospitals for the various sections of our commonwealth, we have to keep in mind that one of the larger services that can be rendered to our people is the public health education that they are so willing and ready to accept. They get it over the radio. They get it in the newspapers. They get it in every method of news communication, that there are vaccines, serums, remedies, dietary treatments, and things of that kind that will prevent a large part of sickness, and the doctor has the larger part to play in bringing into realization the thing that we are preaching to our people. That is what they are expecting of us.

Along this line of medical education at the same time we educate doctors, have to keep in mind and not lose sight of at any time the fact that it is just as necessary to educate the public as we go along to this advanced idea of the modern medicine of the future. And I think that is one of the big advantages in this suggested idea (and it is only a suggested idea) that there be established at the State Normal Schools and the University of Kentucky hospitals. In those institutions are today being educated the future leader citizenship of our state. Those who are being educated along vocational lines, especially in our state university, reaching that point of advanced education along the lines of a specialty, are not going to be of very much service to our state in the future, if the matter can be judged by the past, because they are going to practice somewhere else. But the boys and girls who are being educated in our Normal Schools, a large part of them, will go back into their communities and convey to their people the things that they learned, not only the rudimentary education they get out of their text books but the things they learn from the people that they come in contact with.

I think now of one school with 2,500 boys and girls from all parts of Kentucky who have come in contact with the modern education along the line of periodic physical examinations, dietary knowledge, sanitary habits and conditions that promote better health, personal hygiene, which have converted them and educated them to that which you have put into their minds, a knowledge and an education that they will take back into the school room again and impart to the children that come there to learn the things that they are expected to know in the matter of elementary education. It is the most wonderful opportunity that was ever presented to a body that has in mind this thought of the education along the lines of public health.

I just want to say one other thing. It is getting so that whenever the state association meets, particolar in the House of Delegates, there is a good deal of thought and time devoted to things that are taken up in the legislature and the general assembly. I expect some of you are tired of it.

As has been pointed out, the legislature of any state is the most powerful el ment in the state for good or bad policies affecting the people of that state. The public opinion on any question is pretty accurately reflected in the views expressed by the members that are elected to a state legislature. Oh, I know we think a lot of them go up there and are pulled here and there and are influenced by this and are influenced by that, but the average legislator never loses sight of the fact that he owes to the people who elected him to that office his best judgment and his best service on those questions that particularly affect those people.

What is the viewpoint of the public, or the attitude of the public relative to this matter of medical education as reflected in the members elected to the general assembly? I have been able to gather these three points as being the outstanding facts as they exist today, and I have confirmed that by talking with people in various sections of the state both in the medical profession and in all other lines of activity in order to determine whether this viewpoint expressed by the members of the legislature is a true index of what people are thinking.

In the matter of medical legislation here is what the people of Kentucky are thinking about and the position they are taking on the question: The first is that they realize a need of physicians to replace those who are being lost yearly in the rural sections of the State. I think we will all admit that is a fact. There may be various reasons and various causes.

There may be various remedies suggested, but when you sum it all up the fact remains that we are losing in Kentucky about 150 doctors a year and we are not getting back but very few to replace them.

The second fact that I have been able to gather is that the desire exists among the people of the state particularly the rural sections, for some means or plan to be devised whereby financial assistance and opportunity can be given to a worthy boy who wants to study medicine, realizing that under the existing conditions a poor boy, no matter how worthy he may be, has very little chance to qualify himself in the practice of medicine.

There has not been a state legislature since 1924 that would not have, on the slightest suggestion or the introduction of any kind of a bill looking to the subsidizing of medical education or the means of providing medical education, appropriated any sum of money up to half a million dollars. You may doubt that question. I have talked to enough of those men from year to year and they have told me and the leaders have told me that if any feasible plan whatever were suggested, the legislature would appropriate the money to make possible such a thing. Hadn't it better be done in some way, if possible, whereby it could be directed by the medical profession of the state?

We have already talked about the responsibility that has been placed a great many years ago upon the profession. Truly the people are looking for the profession for guidance. If the state medical association will offer the means or suggest a plan there will not be a bit of trouble in the world in securing the finances necessary to carry it out.

The third thing may surprise you. They do not want any lowering of the medical standards. They do not want any half-baked doctors or any doctors turned out by any means or hook or crook who will not measure up to the standard of the medical profession today. If they are going to have doctors they want doctors like you men, and they won't be satisfied with anything else. Would it be fair to offer to any boy an opportunity to go out and say that he was a physician and could treat people for illness if he could not hold his head up and feel and believe that he had the same opportunity for securing a medical education that the men with whom he had come in contact had? Whatever may be done at any time, now or in the future, if it is going to meet with the approval of the people of the state, it has to be done along the same lines of medical education that we are offering to our boys and girls in our standard schools today. All this bugaboo about substandard education is something that you needn't pay any attention to, because it is something that the public will not stand for. Whatever plan may be adopted at any time, it must be on the same high plain of education and experience and qualification that we are offering today, and, if anything, must be increased in the future. (Applause).

SECRETARY M'CORMACK: Mr. President, I am very glad indeed you have heard this talk by Mr. Blackerby. I want to talk about the development that has been going on through the state for the past few years, since the flood in 1927, and tell you a little something about the condition that confronts us at this time, for which we must seek a remedy at the next session of the legislature.

Starting in 1908 in the county of Jefferson, outside of Louisville, we established the first full-time health department in the United States, not exactly what we now call a full-time health department, but the health officer was put on a salary and provided with a full-time veterinarian, sanitary inspector, and a public health nurse employed by the first county of the United States. We are very proud of the start there. In 1912 with the aid of the Rockefeller Foundation, the second full-time health department started in Mason County. In 1916 another county developed that activity. In 1927 we had the flood in Eastern and Western Kentucky. Through the wise and statesmanlike action of Secretary Hoover, we were provided with sufficient funds from the Federal Government and the Rockefeller Foundation together to assist us in the establishment of twenty-eight additional health departments. This year as a result of the spring flood, we were given an appropriation for twelve additional counties which are now being developed. All together we are receiving from the outside about $125,000 a year for the support of these departments. Of course the profession in the counties in which there are fulltime departments recognize their effectiveness along the line of work that they are doing.

To those of you who are not in those counties I want to submit a statement. We consider that a full-time health department that fails to increase the office practice of every physician in the county competent to do good work, is a failure. One of their main objectives is to teach their people the necessity for the use of scientific medicine and for its use while there is still opportunity for its effective use. That is one of the main objectives of the department. Through the schools and through the indigent, they show the necessity for preventive inoculation and vaccination. It is of interest that Kentucky was the first state in the Union, the first organized government in the civilized world, that passed a compulsory vaccination law. That was passed in 1804, after one of the most dramatic incidents in medical history. I think it is of great interest that as surgery was born through Ephraim McDowell down in Danville, preventive medicine was really first practiced in America by Dr. Samuel Brown between Lexington and Frankfort in the vaccination of a group of 500 after his return with McDowell from Edinburg, after his having been taught this method and given the vaccine virus by Jenner himself.

In the 100 years since that time we haven't enforced that law and I like to think a little bit about why we haven't done it, especially with reference to the conditions that now confront us in many of the others of these lines. Vaccination is one of the most important surgical operations performed on most people. Yet I don't think there is any medical school in the United States that ever really demonstrated the technic of vaccination against smallpox. It was of interest in a questionnaire only three years ago that less than fifty per cent of the medical schools of the country themselves required vaccination and vaccinated their own students systematically each year to see that they were protected against small pox. We haven't protected the people of Kentucky because we haven't systematically done it. In the practice of medicine in the future there are certain things that will be demanded of us by an enlightened public opinion. The doctor who delivers a woman and is responsible for her health and the health of the baby is going to be expected to call that infant back to him at nine months of age and inoculate it for diphtheria, vaccinate it against smallpox. That is going to be adopted as routine procedure by enlightened members of our profession. Then in the third year, if our present knowledge proves as definite as we believe it will, at three years these children are going to be called in for inoculation against scarlet fever. During a few months immediately preceding school they will be called in for the testing of the permanency of protection against diphtheria, scarlet fever and smallpox, and revaccination will be done to determine whether the immune reaction occurs from smallpox vaccination and the Dick and Schick tests will be done to see whether they are permanently protected against these diseases. We know that most of the deaths occurring from diphtheria occur in the first three years of life. We know that the most deaths from scarlet fever occur from the third to the sixth year. Those are perfectly definite things shown by vital statistics the world over. We know that the time to prevent them is not when they start to school but during the pre-school age, and we are going to teach our people those things. We are going to definitely teach the mothers of the state that it is necessary for them as soon as they know they are pregnant to be under the guidance and guardianship of a doctor who will take the blood pressure, make the urinalysis and supervise their health habits during the most important period of life. Today it is of great interest that some 12,000 of the 60,000 mothers in the state each year are receiving a pre-natal letter sent out by the Bureau of Maternal and Child Health, advising them along these lines. All of those 12,000 letters are sent to women at the request of the physicians of the state. It shows the extent of the cooperation we are already receiving.

Last week we received a request to send letters to twenty-five women from one physician in the eastern part of the state, and these letters are coming in with increasing frequency all the time.

There are some things along this line that in our development we are going to have to arrange for. We have a good many counties in the state that are extremely poor. We have a constitution and a financial system that is absolutely antiquated beyond any sort of realization on our part. We pay less taxes in Kentucky than any other state in the Union. Our counties are limited to fifty-cent taxes. They can't assess any more taxes than that at all under any circumstances. Whatever appropriation is made in the counties for public health or any other thing has to be made out of that fifty-cent tax. There are a number of counties in the state that have around $10.000 for their total income. It is inconceivable that a county with a $10.000 total income can adequately support a public health department, although they have 10,000 to 15.000 population. There is only one county that has less than 10,000 inhabitants. It can readily be seen, and this was emphasized by Mr. Hoover in the assignment of money to these health departments, that such a county cannot support adequately the kind of service its people are entitled to. It is necessary for them to receive some assistance from some outside agencies and that agency ought to be the state or nation or both. He used this analogy in expressing the thing to the southern health officers. He said when the United States Steel Corporation was organized it had many of its component corporations that were not making money. It can scrap those of its plants where rehabilitation was impossible. That was manifestly impossible in regard to a county. It couldn't be scrapped because it was composed of human material. He said the steel companies went ahead and from their prosperous plants made such appropriations as necessary to make other plants, that it intended to keep in its organization productive. He said that could only be reached in the counties of the United States by such assistance from outside as would enable them to give their citizens the same degree of education, the same degree of public health protection that others have been givn.

In his inaugural address you will recall the President said that he hoped the outstanding achievement of his administration would be the development of a public health system that would reach into every individual in every home in America with the benefits of modern, scientific preventive medicine in the same degree that public education now reaches to every individual in every home. Of course he realizes that this is not yet perfect in education. It will be a long time before it will be perfect in public health. But that child has the right to be born in an environment where he will be given an equal opportunity with other children. If we are going to develop our great agricultural and mining sections as they deserve to be developed, if we are going to maintain the fine population of those sections of the state, we are going to give them equal opportunity to develop healthy lives with the municipalities that are financially far better able to do the thing. In order to accomplish these purposes it is going to be necessary for our legislature to realize, for the members of our legislature to realize the necessity for such appropriations as a revolving fund going through the state health department. It is of interest, I think, and the profession ought to know it, so that they can say to the members of the legislature and the influential people of the state that at the present time sixty-eight per cent of all the money appropriated for the state board of health isn't expended for services of anybody in Louisville or anybody who is exercising any authority as a state official, but is going directly into the county treasuries of the poorer counties of the state in order to enable them to support their local retail establishments where public health knowledge is disseminated.

With this idea in view it is very important for us to establish as all of the other southern states have established a revolving fund that will assist us in exactly the same way that this appropriation from the Federal Government and the Rockefeller Foundation has enabled us to make these advances that have already been made in the public health field.

I know you will be interested in knowing that while our appropriation is so meager, only Alabama and North Carolina have as many health departments as have been organized in Kentucky. I know you would be interested in knowing that Secretary Wilbur, former President of the American Medical Association, President of Leland Stanford University and now Secretary of the Interior, has recently said in a public address in Boston, "The advances that have been made in the last twenty-five years in public health administration have been made in the southern states." Naturally the eastern states with their enormous wealth and the northern states with their tremendous appropriations were aghast at this suggestion, and we have been interested in having visits from the health commissioners of practically every one of the northern and eastern states within the past three months, and we are notified three are en route here now. We had two in the office last week. We have engagements for three to be here next week to spend a week or two studying our county health work. We feel a tremendous responsibility for the maintenance of the progress that was made. We have extended ourselves more thinly on our present income from the state than we are able to maintain. We receive exactly the same amount of money for our health work today that we received in 1910 and 1912. There has been no addition, except for the special activities to the general funds under which we are operating. Counties are expending a great deal more money and the state must make some additional appropriation at the next session of the legislature if this progress is to be maintained. I feel that the members of the House of Delegates who themselves will come in contact with influential creators of public opinion, should return home armed with the facts so that they can talk intelligently to these men and can assist in building up the organization that means so much to all of us. I don't think there is the slightest question in the world but that the physician of the future is going to make periodic health examinations. I don't think he is going to begin to do it in any real sort of way until medical students themselves are systematically examined. That is now being done in some twelve of the really great medical institutions of the country. It is not being done in the other sixty-eight medical institutions. Until it is done it is perfectly easy to understand that those medical students, not being impressed with the importance of it during their formative stage while they are getting medical education, are not going out and do it in their practice. The members of the faculty are going to have to impress that on the student body before it is actually done. The same thing is true of the other things we are talking about. It is very important for us during the formative stage of the making of the medical students of the future to help create in their minds that they are going out to practice not only remedial medicine, which has been the greatest calling in the whole realm of human service, but that they are going to be human engineers, that they are going to be able to make a survey or an analysis of their patients with a view to giving them the advice that will enable them to best meet the complications of modern life, and that as we can develop along those lines ourselves, as we progress in our profession, we can help the younger men do it far more rapidly because we can lay before them its great desirability. I feel that the profession ought to be acquainted with these facts that are coming to us, to whom you give the opportunity of making the general surveys for you, because all that any of us can do, all that we are able to accomplish, all the recognition we get in national life, comes not from any thing that stamps us as different from the rest of us, but merely because you have been generous enough to give us your confidence in such a way as to enable us to accomplish the purposes that you desire. We are able to do these things not from any individual capacity on our part but because we represent you who have been so loyal and so faithful that it would have been impossible for us to have accomplished less. We all feel we ought to have accomplished a great deal more.

I represent the profession of Kentucky on the White House Conference on Child Health. Because the medical profession and the people have confidence in the medical profession of Kentucky we have made more progress than any of the other states in this regard, the pediatricians, obstetricians and general practitioners have given me this recognition, which is not for me as an individual but for me as your representative. It is that we may arm ourselves with these facts and build up a stronger and a better organization from day to day and month to month that I feel you should be acquainted with the facts. (Applause).

PRESIDENT BLACKBURN: Gentlemen, is there any further discussion of these matters that have been brought up by Mr. Blackerby and Dr. McCormack?

DR. W. C. SIMMONS, Smith Grove: I don't always agree with Mr. Blackerby. I don't feel it is necessary for men to spend six or seven years in a medical school and in a hospital. I feel that any young man with ordinary horse sense who goes out of high school to go into a medical school can graduate in four years. I am the last one of the surviving members of the old country doctor in my county. I have been practicing medicine now in the country for forty years. I graduated in 1888 from Vanderbilt University and it took two years, two months out of two years, to get through medicine. I didn't have much training. True, I have had to study pretty hard, had to take some post-graduate work, but I have managed to get along. I think the trouble is that down in the country we are out of rural doctors. In our community, Smiths Grove, Warren County, when I went there we had five or six doctors in town and a corresponding number of doctors all around us. Out of that number there are twenty dead; two of us left, myself and one young man who moved there in the last forty years. The trouble is that nobody has money enough to secure a medical education. Six years is entirely too long. Very few people have that much time and that much money to qualify themselves for the practice of medicine. I began my study under Dr. Hanes, our President, then of Tennessee. At that time he was a pedagogue. I am sure I did one good thing. He saw me start out and he began the same thing. I think it was the incentive for his setting up medicine. I started a man in, and even if I didn't succeed myself, he has made a brilliant success. (Applause).

PRESIDENT BLACKBURN: Any further discussion? Is there any new business to come up at this time?

DR. W. E. GARDNER: At a meeting of the Council this morning it was suggested that the Society should go on record as manifesting some interest in the improvement of the state hospitals for the insane and the insititutes for the care of the feebleminded. I think the time has come perhaps when doctors generally will have to take a more active interest in trying to get increased appropriations for these institutions. The State Board of Charities has been fighting the battle alone for years. The institutions, as we all know, are terribly overcrowded. Unless they begin to spend money now and improve the larger institutions, very great expenditures are going to be necessary in years to come. I feel it is proper that the state medical society should go on record as at least having some interest in this matter, and it was suggested that I prepare a short resolution to submit to the House of Delegates.

"Whereas it has been generally known by the medical profession of the State of Kentucky, for a number of years, that the three State Hospitals for the Insane and the Institution for the care of the Feebleminded have been crowded to such an extent that it has been necessary to parole many patients from these institutions who should have been kept for longer periods of treatment, or permanently cared for, in many instances, and that such conditions have prevailed on account of the inadequate financial support which has been given these hospitals during the past thirty, or more, years, be it

Resolved: 1st. That it is the concensus of opinion of the House of Delegates of the Kentucky State Medical Association that the next Legislature should seriously consider ways and means for providing substantial appropriations for the benefit of these institutions to the extent that they may have such accommodations and facilities for treatment that are in keeping with those provided by other states of no greater wealth than the State of Kentucky.

2nd. That the medical profession of the State has the utmost confidence in the ability of the physicians now in immediate charge of these institutions and their earnest endeavor to do the best they can with the facilities at their disposal, and is ready to lend its influence and support to any measures looking toward substantial appropriations for the enlargement and improvement of these hospitals which should, in years to come, be a real asset to the State of Kentucky if such adequate support can be provided that many of its unfortunate inhabitants may be restored to useful citizenship.

This resolution is submitted at the suggestion of the Council of the House of Delegates of the Kentucky State Medical Association."

W. E. Gardner, M. D.
Chairman of the Committee.

PRESIDENT BLACKBURN: This resolution will be referred to the Committee on Resolutions of which Dr. L. C. Redmon, of Lexington, is Chairman. After the report of the Committee on Resolutions regarding this resolution it will be open for discussion by the House of Delegates.

Is there any other business?

The House of Delegates will meet tomorrow morning at eight o'clock in the Louis XVI Room on the Mezzanine Floor.

PRESIDENT BLACKBURN: Gentlemen, I am informed by the General Manager of the Kentucky State Medical Association, Miss Sullivan, in view of the fact that the Chair announced today that the meeting of the House of Delegates would be in this room, the hotel management has arranged for the meeting of the House of Delegates in this room tomorrow morning at eight o'clock rather than in the Louis XVI Room. Unless there is some objection we will announce the meeting of the House of Delegates in this room at eight o'clock tomorrow morning.

The meeting adjourned at nine twenty-five o'clock.

THIRD SESSION, OCTOBER 22,

The meeting convened at eight-ten o'clock, Tuesday morning, President Blackburn, presiding.

PRESIDENT BLACKBURN: The House of Delegates will come to order please.

Dr. W. C. Simmons, the report of Warren County Medical Society.

Warren County

DR. W. C. SIMMONS: Mr. President, I am glad you are here to make some sort of apology for Warren County Medical Society. Since Dr. South and Dr. McCormack left our county we haven't had many medical meetings over there. I think we have had but one meeting this year. I don't know of any reason for it. I haven't had an invitation to any other medical meeting. If I had been, I could have gone. We did have one meeting in order to elect delegates to come to this Association.

PRESIDENT BLACKBURN: Is there any other county?

Christian County

DR. AUSTIN BELL, Hopkinsville: Christian County has a splendid medical society. We meet the first Tuesday in each month in the evening. We usually have a dinner at the hotel and a social hour, and following that we have our discussion of cases and then papers. Usually we have two essayists and they bring us splendid messages and we have a free and frank discussion of each paper. We have had a meeting each month this year. The neighboring doctors in the other counties join with us and many of them are associate members of our Society and attend regularly. Our average attendance for the year has been about forty-three if I remember correctly. I think we have one of the best societies in the state, and we are greatly indebted to Louisville, Evansville and Nashville physicians as well as the physicians in our immediate section for helping furnish our program.

SECRETARY M'CORMACK: Mr. President, while the other members are coming in, I should like to make two or three suggestions in regard to these reports from the county societies, and draw your attention to two or three of the things that have impressed me as they have been presented.

You will notice that every county society that is successful is having two things: Definite programs with papers discussing the advances in the science of medicine, either by their own members or by members from Louisville or other medical centers. In addition to that every successful county society almost without exception is having food served at the meeting. Doctors come in to have the social dinner together and make the friendships that they can make that way better than any other. It is with great personal regret that I hear the report of the delegate from Warren County. The real pleasure of meetings of the Warren County Medical Society during my long practice there is among the outstanding recollections of my life, and as I recall the progress made by the profession in Warren County during those meetings, as I think of the men who came into practice, I remember that many of them were without the background and without the training that they themselves would have desired. Yet they came in contact with one another at our monthly and frequently weekly meetings, and I recall the progress of many of those men. I think particularly of the late Dr. Tom Stone, a great doctor, deprived in early life of many opportunities, and yet I never saw any man become a better qualified practicing physician than did Dr. Stone during his active life, and it was brought about by the county society.

The members of the profession in Louisville I am sure will recall with pleasure Dr. McCracken, at present, the Dean of the Detroit College of Medicine and Surgery. Dr. McCracken was a middle-aged man when he graduated. He was a natural teacher, and in the conduct of post-graduate courses in the Warren County Medical Society, he developed the very knack that has made him a leader in medicine. That happened to many of us. Every one of us was made a better doctor by that system. Every man in every society of the state will be made a better doctor if he attends his county society.

One of the pleasantest things that have happened to us this year was the visit that Dr. Blackburn and Dr. Hanes, Mr. Blackerby and I made to Calloway County. There is no better profession in Kentucky than that of Calloway County, but they had held their last meeting some fifteen years ago. Now they are having regular meetings. This great profession down there has had several of the very best meetings that have been held anywhere, and it is important, I think, for us to remember all the time, and you will notice in this gathering, you notice it in all of our public relations, that the counties that have effective medical societies or have the confidence of their people, know that it is important for us to always remember that the comments that one physician makes upon another to laymen is nearly always a confession rather than a charge. You hear a doctor say something about some other doctor outside of a medical society. He is nearly always telling his own faults and trying to lay them on somebody else. That is so universally true that it is recognized by people generally now. In fact it is being taught in the schools of Kentucky, that when you hear a doctor say something about another doctor he is talking about himself instead of the other man, if it is unfavorable comment.

Another thing that is important in the profession and that every school child in Kentucky is taught during his eight years of the primary education, as to ask the doctor who comes to his house when he is sick if he was present at the last meeting of the medical society and to take it for granted generally if he was not there is he not a safe doctor. That is particularly true in this age of specialists. The members of the profession, if not of the state, have learned to know when they come to Louisville and to the City Hospital and to the meeting of the county medical society, they can best afford to call in consultation those men who are in constant attendance at the society. But the men who are not in attendance are not keeping up with the broad field of progress in medicine. They are taught that the busiest men, the leaders, the active men who are making contributions to the progress of the science of medicine, are present at the meetings, and that the men who are not there are standing still and are not making that progress. That is true in the nation. The men who attend the society meetings are the men who are building the science of medicine, and it seems to me it is very important that we go back to our society and help to impress that thing on all of them.

It doesn't make any difference how many districts, state, or national societies there are, that a man attends, he is building the profession at its foundation in his county medical society, and that is the place to exercise his gifts and graces if he wants to attain anything anywhere else.

If we look back at the men who have so recently left us, men like Dr. McMurtry, Dr. Matthews, Dr. Wathen, Dr. Vance, it was the rarest thing in the world that those great men, who left their impression forever on the progress of medicine, were not present at the meetings of the county society. As I look at the profession in Louisville today I see the same thing. We see men listening to papers not in their specialty or their line particularly, but broadening themselves in the field of medicine by those contacts, and we know that the county society is the base on which we are going to erect our whole medical structure.

PRESIDENT BLACKBURN: Is there any other county society not represented as yet?

DR. E. B. HOUSTON, Murray: I just came in. Dr. McCormack just stated we had our meeting in September, the first one for fifteen years. It was at the time Dr. Blackburn, Dr. Hanes and Dr. McCormack visited our end of the state, and we had a very enthusiastic meeting when they were there, and then in a month or two we had one of the best meetings our society has ever had. We had a very fine program.

We have our auxiliary that I think was organized at the time the doctors were visiting our county, and it is a very active auxiliary now. I think practically every doctor's wife or widow, and so on, is organized throughout the county fully. They have their representation here today. Two I know are already here on the ground. We are certainly delighted with the enthusiasm that was given us by the visit of the doctors a few months ago, and we feel that we are going along fine.

SECRETARY M'CORMACK: I want to call your attention right there, and I think everybody ought to understand it, to one satisfactory result of the reorganization of that society, Calloway County, which has an effective full-time county health department. Doctor, doctors' wives, and everybody they could take with them went to the fiscal court and they responded and made the necessary appropriation and built a health department. They are effectively doing the thing we are all interested in. That county board of health realizes, as every other one does, that it is charged with the responsibility of education of the county as to the benefits to be derived from scientific medicine. As these health officers and nurses go through the county, not themselves practicing, not themselves deriving any response from it, they are teaching people that pulling their legs or punching their spines or praying for them is not going to relieve them of infection, is not going to restore them following accidents, is not going to make diseased tonsils get less infectious, is not going to cause dental defects to be repaired. They can call their their attention to it in such a way as to educate them to the benefits of scientific medicine. No other agency can do it, and we know we are getting results in this particular line along with the other things that have been done in these health departments.

PRESIDENT BLACKBURN: Dr. Stites, do you want to report on the Committee on Periodic Health Examinations?

REPORT OF COMMITTEE ON PERIODIC HEALTH EXAMINATIONS

DR. F. M. STITES, Louisville: I regret

very much that the Committee as a whole has not been able to get together due to the absence of some of the members. We have a report, however, to offer. Before offering this report I should like to suggest that any of you who are interested, and all of you should be, should know that a great deal can be secured from recent literature in regard to this work of periodic health examinations. Dr. Bloodgood of Baltimore has a very interesting article in the November issue of the Atlantic Monthly Medical Journal. There is rather a comprehensive book published by two men sponsored by the Life Extension Institute, published about two years ago, a splendid publication. In November, 1928 in our own Kentucky State Journal we had a very interesting article written by a Nashville man along this line. His article was read before one of the district societies in our state. We find those three articles very interesting to read.

Be it Resolved:

That the Kentucky State Medical Society endorses periodic physical examinations, realizing that they are of exceeding great importance in maintaining health.

That physical examinations should be systematically and thoroughly performed in order that abnormalities whether functional or organic may be revealed even in the apparently normal. Every necessary laboratory facility should be utilized. The early detection of any abnormality permits of corrective measures prior to the development of serious health impairment.

That each County and District Medical Society determine ways and means that will enable the physician of the constituent counties to advocate and carry out a more definite policy relative to (a) education of the people in preventive medicine, (b) periodic medical examination for those who are apparently healthy, (c) formulation of a plan that will enable the physician of the county to assume definite responsibility for any corrective work which may be necessary and which may be done in accord with the ethics of the medical profession.

Statistics have shown that out of a large number of examinations through life extension institutes more than 60% of those examined needed medical attention and less than 20% of this number were actually receiving it. Experiences gained during the recent World War revealed the fact that a large number of the young men of this country, supposedly in the vigor of manhood, showed physicial defects which were undermining their health of which they were entirely unconscious. In our own commonwealth the death rate of malignancy is 60, heart disease 68, nephritis 24 per 100,000 people. These figures all denote an increase. Periodic health examination with preventive measures would soon show a marked reduction in this rate. A great deal has been done to conserve the health of our children through school examination but very little effort to reach those beyond this age.

What is most needed now is a systematic course in the schools, and a better method of keeping everybody informed after the school age, and securing for them medical supervision. Results have shown the tremendous improvement from such work.

It is economically desirable and lastly it in no way interferes with liberties, rights and individualism.

PRESIDENT BLACKBURN: Is there any discussion of this subject of periodic health examinations?

DR. FRANK BOYD, Paducah: I have been very much impressed with this periodic health examination proposition. A great corporation with which I am connected are requiring periodic examinations of their employees on the entire system of the Illinois Central Railroad. They also require birthday examinations. Every employee must be examined every year at local centers where there is proper medical facilities. They have been very much impressed with the findings in some of these periodic examinations and they now require (and you can all understand the real importance of that) all of the engineers, conductors, men in the operating departments of the railroad, if they are found to have high blood pressure or any of the most serious effects, to report not once a year but some of them as often as every thirty days. They are kept under constant supervision as to how they can correct their present defects. A lot of the men say, "He has been in for examination, there is nothing the matter with him." You examine that man and you find serious defects and things that may be corrected and are corrected. These men are kept in employment and are improved in their physical condition by reason of these examinations. They are given advice, they are placed under treatment and observation.

In the case of the more elderly engineers where the blood pressure is running 210, 220, when they say they are better, never felt better in their lives, they would say that whether they felt that way or not. It becomes necessary to take them out of service for a time until they have overcome these defects.

This work has impressed me more as to the necessity of physical examination of employees in public service because they have direct supervision or control of the lives of so many people. It is very important, and now they are not only recommending birthday examinations but require them. They have a record of all the birthdays. They have their ages and they are notified to appear for examination on their birthdays. Sometimes we feel that a hospital is something of a nuisance to have. A birthday examination takes a little time, but controls a lot of things and prolongs the man's usefulness with the railroad corporation.

PRESIDENT BLACKBURN: Dr. Simpson, we would be glad to hear from you on the subject.

DR. V. E. SIMPSON, Louisville: I have nothing to say on the subject.

PRESIDENT BLACKBURN: Dr. Howard of Glasgow, will give his report on County Hospitals.

Report on County Hospitals

DR. C. C. HOWARD, Glasgow: In regard to the project of County Hospitals, the Committee wishes to fully endorse that part of the Council's report pertaining to erecting and maintaining of Community Hospitals.

DR. J. DUFFY HANCOCK: I have a resolution I should like to offer to the Committee. There is going to be a national survey of the cancer problem made and I understand that they will come into this state and carry on their work here if we let them know that we want them to do it. I should like to offer this resolution.

WHEREAS our vital statistics show that for the past fifteen years there has been a small but continuous increase in the death rate from cancer in United States be it resolved by the Kentucky State Medical Association that the State Board of Health be requested to invite the National Association for the Prevention of Cancer to co-operate with it in a survey of the incidence of this disease in Kentucky and a study of the resources of the state for its prevention and treatment with a view to the development of a cancer Institute for the investigation and diagnosis of this disease.

PRESIDENT BLACKBURN: Gentlemen, you have heard this resolution of Dr. Hancock's. What is your wish regarding it?

We will refer this to the Committee on Miscellaneous Business and give them something to do with reporting back, Thursday morning. Is there any other business?

SECRETARY M'CORMACK: I desire to read a letter.

September 30, 1929.

Dr. Frank K. Boland,
Atlanta, Ga.

My dear Dr. Boland:

This is to advise you that you are hereby appointed fraternal delegate of the Medical Association of Georgia to the Medical Association of Kentucky on the occasion of its annual meeting October, 1929.

You are requested to extend to the membership of the Medical Association of Kentucky most cordial greetings from the Medical Association of Georgia and our best wishes for an interesting and successful meeting.

You are also commissioned to extend to the entire membership of the Medical Association of Kentucky a whole hearted invitation to join the President's Automobile Tour, sponsored by the Medical Association of Georgia which will run from Savannah to the Southern Medical Association meeting in Miami, The tour will leave Savannah 7:00 A. M., Monday, November 19th, reaching Miami 3:00 P. M., Tuesday the 19th. A very enjoyable trip is anticipated.

Fraternally,
Wm. R. Dancy, M. D., President,
Medical Association of Georgia.

PRESIDENT BLACKBURN: Is there any other resolution? If there is nothing else, gentlemen, the House of Delegates will meet again Thursday morning at eight o'clock in the Louis XVI Room for the election of officers.

If there is nothing further the House of Delegates will stand adjourned until that time, and we will meet in this room in about twenty minutes for the opening of the General Session.

The meeting adjourned at eight forty-five o'clock.

FOURTH SESSION, OCTOBER 24

The meeting convened at eight-ten o'clock, Thursday morning, October 24. President Hanes, presiding.

PRESIDENT HANES: Gentlemen, the House will please come to order.

The first order this morning is the roll call. Secretary McCormack called the roll.

PRESIDENT HANES: The next order of business is the election of officers. Nominations for President are now in order.

DR. W. A. JENKINS, Louisville: Mr. President and Gentlemen of the House of Delegates: I am speaking this morning to the accredited representatives of the greatest medical organization in Kentucky. Personally, I feel a great deal of pride to even be a member of such an organization because we have now grown to the point where we are not only entirely humanitarian and altruistic in our efforts, and always have been, but we give the best we have not only from the side of scientific training but also from the humanitarian standpoint of the human being.

We have reached the point now in our development where we have thoroughly sold this idea, or rather proven our stand on this position to the public of Kentucky. Every man, woman and child, the legislative bodies and those who are in positions of authority such as judges, governors, county officers, and so forth all over our commonwealth, I belive now understand that the medical profession of Kentucky is united as one and stands behind them ready to assist and aid with no other end in view than simply the guarding and guiding of the health and welfare of these human beings in this state.

Gentlemen, I have always felt that it is the greatest possible honor that can come to a Kentucky doctor to be elected a President of the Kentucky State Medical Association, and I feel so yet in view of the truth and significance of the facts I have just stated, and it woud seem to me that any man would regard it as a crowning act in his career, the summit of all things that could be attained, to be elected the President of this great body.

The list of presidents has been a long and illustrious one. We have had men who have rendered great service not only at home but some of them abroad to humanity in general and to the medical profession in particular. These men have always rendered their services freely and without cost. It is a great honor to have one's self arrayed with this long list of illustrious names. We should see to it that the line does not degenerate in its selection.

In selecting men for the position of this magnitude it would seem to me it would be somewhat in order to consider the standpoint of service. Usually men are selected who have in some manner or other, in some shape or form rendered some outstanding service to their fellowmen, to their state, to their community, to their fellow doctors, and we should keep this end in view.

Gentlemen, I rise to nominate a man who I think will adorn and grace this long list of prominent presidents in the past, a man who has served the Society long and faithfully, a man who is qualified not only from the standpoint of scientific attainments but most excellently and most thoroughly from the standpoint of possession of those native, inborn, inbred characteristics of altruism and honor and respect for his fellows, and broad humanitarianism. Mr. President and gentlemen, it affords me great pleasure to place in nomination for the presidency of the Kentucky State Medical Association the name of Dr. W. B. McClure, of Lexington, Kentucky. (Applause).

DR. J. W. SCOTT, Lexington: I wish to second the nomination of Dr. W. B. McClure.

It is a matter of gratification to Fayette County that the State Society feels that Dr. McClure belongs to it rather than to the County of Fayette. Fayette County realizes the long service he has given to this Society and feels that in point of qualification and in point of reward for his long service to the Society it is highly fitting that he should be honored with this, the highest gift of this Society.

DR. C. G. DAUGHERTY, Paris: I move that nominations be closed and the Secretary be instructed to cast one vote for President.

The motion was regularly seconded, was put to a vote and carried, Secretary McCormack casting the ballot of the Society for Dr. McClure as President.

PRESIDENT HANES: It is a great pleasure gentlemen, to announce to you that Dr. McClure is the President-Elect of the Kentucky State Medical Association unanimously.

Nominations are now in order for Vice-President.

DR. C. G. DAUGHERTY, Paris: I have the pleasure to nominate for the position of First Vice-President one who has likewise bestowed all sorts of honors on the Society locally and generally, who served abroad during the Great War, leaving a well deserved and well earned position and his practice at home. He is beloved by everybody who knows him, and who I know will likewise cast all sorts of honor on the Society.

I have the pleasure now of nominating Dr. John Phythian, familiarly known as Jack, for the office of First Vice-President.

DR. C. W. SHAW, Alexandria: I take great pleasure in seconding for Campbell--Kenton Medical Society this nomination.

It was regularly moved, seconded and carried that the nominations be closed and the Secretary instructed to cast the unanimous ballot of the Association for First Vice-President.

SECRETARY M'CORMACK: I cast the ballot of the House for Dr. John Phythian.

PRESIDENT HANES: Gentlemen, Dr. Phythian is elected Vice-President unanimously.

Next in order is the nomination for Second Vice-President.

DR. S. C. SMITH, Ashland: Speaking from the Big Sandy River section and recognizing the fact that Eastern Kentucky deserves some recognition, I wish to place in nomination a man from the city of Louisa, a man who has served his profession long and well, a man who served during the World War and who served with distinction.

I wish to place in nomination Dr. L. S. Hayes of Louisa.

PRESIDENT HANES: Are there any other nominations?

DR. FRANK BOYD, Paducah: I move the nominations be closed and the Secretary instructed to cast the ballott.

The motion was regularly seconded, was

put to a vote and carried.

SECRETARY M'CORMACK: I cast the ballot of this House for Dr. Hayes.

PRESIDENT HANES: We now come to nominations for Third Vice President.

SECRETARY M'CORMACK: As long as there seems to be some hesitation in the selection of a nominee for Third Vice-President, I should like to nominate Dr. W. E. Gary, of Hopkinsvill .

DR. R. L. WOODWARD, Hopkinsville: I want to second that nomination.

It was regularly moved, seconded and carried that nominations be closed and the Secretary instructed to cast the ballot of the Association for Third Vice-President.

SECRETARY M'CORMACK: I hereby cast the ballot of the House for Dr. Gary.

PRESIDENT HANES: Dr. Gary is unanimously elected. Next in order is the election of a Treasurer to succeed our worthy Dr. McClure.

DR. C. A. VANCE, Lexington: As long as the Treasurer belongs to the whole state, as we have proved that Dr. McClure fittingly belonged to the whole state, I think it is fitting for someone who is not a delegate from a county society to nominate a man for Treasurer. Therefore, as I don't belong to a delegation from the county society but of the Council, I wish to nominate a man.

This man is well known throughout the state and does the best kind of work. He is popular and I believe he would make a fine Treasurer. He has another qualification which only he has in the state. He is a kinsman of one of our best known men in the state: I mean in the past, not the present. I nominate Dr. Marshall McDowell, of Cynthiana.

DR. C. G. DAUGHERTY, Paris: Living in the county next to that in which Marshall McDowell lives, I would naturally know him better than anybody. If there is a worthier representative and artist, and one who likewise has the fortune of bearing the name of our beloved Ephriam McDowell, I don't know who he is. I take pleasure in seconding the nomination.

DR. J. E. WELLS, Cynthiana: I am not a member of this House of Delegates. I was a member for a quarter of a century. I am going to ask the privilege of seconding the nomination of Dr. McDowell. (Applause).

DR. J. H. BLACKBURN, Bowling Green: I move that nominations be closed and one ballot be cast for Treasurer.

The motion was regularly seconded, was put to a vote and carried.

SECRETARY M'CORMACK: I cast the ballot of the House, Mr. President, for Dr. McDowell, as Treasurer.

PRESIDENT HANES: Dr. Marshall McDowell is elected Treasurer of the Society unanimously.

Next in order is the nomination for the delegate to the American Medical Association. Nominations are in order.

SECRETARY M'CORMACK: I wish very much I had the eloquence of Dr. Hendon because I should like to say the things about him that he could say about any one of the rest of us. I have had the privilege of serving with Dr. Hendon in the House of Delegates, and I take a great deal of pleasure in making official record of nominating him to succeed himself.

DR. C. W. HIBBITT, Louisville: I second the nomination.

DR. C. G. DAUGHERTY, Paris: I move nominations be closed and the Secretary cast one vote.

The motion was regularly seconded, was put to a vote and carried.

SECRETARY M'CORMACK: I cast the unanimous ballot of the House for Dr. Hendon to succeed himself as delegate to the American Medical Association.

PRESIDENT HANES: Dr. Hendon is unanimously elected to be the delegate to the American Medical Association.

Next is the nomination of the Orator in Surgery.

DR. J. R. WATHEN, Louisville: I arise to place in nomination the name of a Kentuckian whose father was a member for nearly half a century of this Society, an active member. His son is a native Kentuckian, graduate of the University of Louisville. He saw service in the late War abroad. He has done a great deal of good work for the crippled children in Kentucky, and he has attained high honors. He is now one of the faculty of the University of Louisville, Surgical Department, and he holds membership in some of the largest surgical societies in the country.

I should like to place in nomination the name of Dr. Frank P. Strickler, of Louisville, as Orator in Surgery.

DR. W. A. JENKINS, Louisville: I second that nomination.

PRESIDENT HANES: Are there any other nominations?

DR. F. M. STITES, Louisville: I should like to put in nomination a man from Louisville who also has a record very similar to that of Dr. Strickler. His father was an eminent surgeon in our community for a great many years, and he is eminently qualified to deliver this address, an outstanding man in his specialty, Dr. Owsley Grant.

DR. W. H. LONG, Louisville: I second the nomination.

SECRETARY M'CORMACK: I move that nominations be closed.

The motion was regularly seconded, was put to vote and carried.

PRESIDENT HANES: I will appoint Dr. Long, Dr. Vance and Dr. Hibbitt as tellers.

I shall appoint Drs. Scott and Wells to go out and make a search for Dr. McClure and bring him into the hall.

The ballots were cast.

DR. C. W. HIBBITT, Louisville: The official ballot stands: Grant 37; Strickler 25. (Applause).

PRESIDENT HANES: Dr. Grant is elected Orator in Surgery.

Next in order is the nomination of the Orator in Medicine.

The audience arose and applauded as Dr. McClure came into the hall.

PRESIDENT HANES: Gentlemen, I have the very great pleasure of presenting to you our new President, Dr. McClure, the worthy descendant of a doctor, lawyer and a preacher. (Applause).

PRESIDENT-ELECT M'CLURE: Mr. Chairman and Fellow Members of the Kentucky State Medical Association: If you doctors had been fair and generous and had called me in consultation, I might have prevented this error on your part, if not an error in diagnosis at least an error in the remedy suggested. I should have pointed you to numerous worthy men in this Association who are not only more deserving but better qualified to fill the position of this office.

I was very much impressed with a quotation contained in that splendid address by the Orator in Medicine the other night. As I remember it, the quotation ran something like this: that a man only begins to grow after he discovers his own limitations. I want to say to you that if I grow in proportion as I discover my limitations, I shall soon be in the class of my friend Dr. Charlie Daugherty. (Applause).

Speaking seriously, gentlemen, that man would have a heart of stone whose fibers were not thrilled by such a manifestation of esteem and confidence as you have shown to me this morning. I had thought you had bestowed sufficient honors upon me in the past. I served you without opposition for twenty-six years, and I really thought that was sufficient honor for me, but this morning you have added another and possibly a greater honor, and I am overwhelmed with this expression of confidence on your part.

I shall promise you that as in the past I shall do everything that is in my power to advance the interest in this organization, and from the very bottom of my heart I want to express to each and every one of you my profoundest thanks. (Applause).

SECRETARY M'CORMACK: I should like to call attention to the fact that there is a wonderful precedent broken. That is the first time I have ever seen a Scotchman separated from the money bags in order to accept a position even as exalted as the Presidency. (Laughter).

PRESIDENT HANES: I suppose the Scotchman has about reached his limitations in the money bag business and has given it up. (Laughter).

Next in order, gentlemen, is the election of an Orator in Medicine.

DR. W. E. GARDNER, Louisville: I should like to place in nomination Dr. Emmett Horine, of Louisville.

The nomination was seconded by Dr. O. R. Kidd, Paducah.

DR. C. G. DAUGHERTY, Paris: I move that nominations be closed and the Secretary instructed to cast one ballot.

The motion was regularly seconded, was put to a vote and carried.

SECRETARY M'CORMACK: I cast the ballot of the House for Dr. Horine as Orator in Medicine.

PRESIDENT HANES: Dr. Horine is elected as Orator in Medicine.

Next in order is the selection of the place of meeting.

DR. J. H. BLACKBURN, Bowling Green: Gentlemen of the House of Delegates: I come before you this morning with an invitation from a small town, not the metropolis of the state but the metropolis of the pennyroyal.

We want you folks to come to Bowling Green next year because we believe every one of you will have a good time. We believe we can take care of you, and we feel from the bottom of our hearts that we ought to have you. It is going to do Bowling Green good. It is going to do the profession of Bowling Green good and of Warren County and the Third District, and we are very anxious for you to come. The Warren County Medical Society unanimously went on record as asking the State Medical Association to come there next year.

I have with me all sorts of invitations. I have one from Mayor Hines of the city of Bowling Green asking that you folks come, and directed to the Board of Governors. That shows how much a politician knows about how we run the State Medical Society which has no politics.

We have one from the Kiwanis Club.

"The Kiwanis Club of Bowling Green has instructed me to extend to you an invitation to conduct your next convention in Bowling Green. We can asssure you of ample accommodations, a delightful city, and the heartiest welcome in the world.

"We sincerely trust that you will decide to be with us.

"Yours very sincerely,
"(Signed) Charles S. Nahm, President,
Bowling Green Kiwanis Club."

"The Bowling Green Rotary Club extends you a cordial invitation to hold your 1930 convention in Bowling Green.

"Yours very truly,
"(Signed) S. C. Cooke, Secretary."

This morning I received this telegram:

Please be kind enough to convey to the members of the State Medical Association a most cordial invitation to hold their 1930 session in Bowling Green. Our citizens will feel honored at having this distinguished body meet in this city again after a lapse of seventeen years.

That is signed by L. T. Goodridge, President of the Bowling Green Board of Trade.

It was intimated to me by the manager of arge hotels in Bowling Green that the hotel keepers would be glad to have you come. (Laughter).

Here is one addressed to Dr. McCormack:

"The Western Kentucky Teachers College desires to join Doctor Blackburn and other citizens of Bowling Green in a most earnest invitation to the Kentucky Medical Association to hold its next annual meeting in Bowling Green. The Board of Directors, Faculty and all other co-workers join me in this earnest invitation for your Association to hold its next annual session at this place. We shall be delighted to place at your disposal such buildings, school organizations and other influences that will aid you in making your annual meeting effective and your stay in our midst a delightful one. This invitation is a most earnest one.

"If you see proper to meet with us we assure you of a most cordial welcome in our midst. I am sure the Association will never have cause to regret accepting the invitation provided you see your way clear to do so. All of the citizens of Bowling Green will be with you and assist in every possible way.

"Sincerely yours,
"(Signed) H. H. Cherry."

Gentlemen, do you think we don't want you?

I had a friend in the earlier days who made it a rule to accept invitations. That was back in the days when we would all go to the same church on Sunday, and if anybody invited us we all went home with her for Sunday dinner. I always told them if they didn't want my friend Bryant, not to invite me.

Folks, if we didn't want you we wouldn't invite you.

Are we accessible? If you are coming from eastern Kentucky, northeastern, southeastern Kentucky come over Route No. 68. If you are coming from Louisville you can't get lost. It is a hard surfaced road all the way. If you are coming from Paducah and points between, come by way of Owensboro, across through Butler County and Morgantown over a hard surfaced road. If you are coming from western and southwestern Kentucky, ferry a couple of rivers, get on No. 68 and come on to see us. We want you gentlemen in 1930. (Applause).

DR. C. G. DAUGHERTY, Paris: I move we accept the invitation of Dr. Blackburn.

DR. O. H. MASON, Murray: Gentlemen of the Kentucky State Medical Association: I also have an invitation to present for you to come to Murray, Kentucky. Murray is not in the Third District but in the First District of Kentucky. We have a thriving little city there. We can offer you all the accommodations that Bowling Green has, I know.

We have a State Teachers College there, too, and I have here a telegram from President Wells to extend to this Association the invitation to come to Murray, and the facilities of the College will be at your disposal. We have one of the best auditoriums in the state of Kentucky. We have a wonderful dormitory there that will accommodate you all. This invitation is well backed.

SECRETARY M'CORMACK: I have enough telegrams that to read them would take all the rest of the morning.

DR. O. H. MASON, Murray: They are from the various clubs of Murray, the Mayor of Murray, the business organizations, and one from President Wells urging that you accept this invitation. We know we can offer you abundant facilities, and you can also have a thoroughly scientific and interesting program at Murray.

It is accessible. Western Kentucky didn't use to have roads, but we do have roads now. It is accessible by automobile or by train, and you can get there easily, and we would be most happy to have you.

I offer again this invitation for the 1930 meeting of the Kentucky State Medical Association to be held in Murray. Dean Wells, the organization of Murray and the Calloway Medical Society will be most happy to welcome you and be your host for the Association.

DR. O. R. KIDD, Paducah: McCracken County Medical Society would be glad to have you there, but since then we found that Calloway County was anxious to have us there, and they are well prepared to take care of us. They have a beautiful town, and I am sure you would enjoy a meeting at Murray.

I make a motion that we meet at Murray.

DR. V. A. STILLEY, Benton: I have had the honor of being the Councilor for the First District for a number of years. It has always been a very great pleasure for me to be at Murray. I have been there several times at the reorganization of the Calloway County Medical Society. President Wells has extended us a very cordial invitation to come. The buildings are ample. He has one of the best auditoriums in the country. We have been invited by the Kiwanis, Rotary and Lions' Clubs, the Mayor of the town and the profession of the county. Murray has never had the meeting yet and we feel we need you. We certainly want you, and we can take care of you. We would be mighty glad to have you.

DR. L. GRAVES, Scottsville: Being a neighbor of Dr. Blackburn, I assure you that every thing he said about you being well entertained at Bowling Green will be a fact in case you decide to go there. Being the home of the great pioneer and to my mind, the greatest public health man that has ever lived, I think we would do honor to Dr. McCormack, Senior, if we would meet at Bowling Green. (Applause).

DR. E. B. HOUSTON, Murray: Mr. President and Gentlemen of the House of Delegates: I want to arise to second the nomination of Murray. Possibly enough has been said but this Association about seven years ago decided, you know, to hold one meeting in Louisville and possibly the next two out in the state. The purpose of that, it seemed to me, was to unify the profession of Kentucky. Dr. Blackburn remarked that Bowling Green was a country town. Murray is a still further country town and more remote. We feel it would do us good to rub shoulders with the Kentucky State Medical Association in western Kentucky, and it has been some nine or ten years since Paducah has been favored with this meeting.

As President of the Calloway County Society and a member of the Rotary Club, which telegrams you already have on your desk, we want to earnestly ask consideration when you come to vote in placing Murray on the map. It is a great town now and home of one of the State Normal Schools, the State Teachers' College.

I want to again second this nomination with the hope that we can entertain you at Murray, as Dr. Mason, who is a regent of the state normal school there, has earnestly extended the invitation.

The situation for getting to Murray is about as good as for getting to Bowling Green. We are on No. 68, only about 114 miles beyond, with had surfaced roads most of the way, and one of the best gravel roads the rest of the way. You can reach Murray through Bowling Green, Hopkinsville and Cadiz and ferry two rivers. You can reach Murray through western Kentucky through the highway of Mayfield. You can go from Paducah to Murray. We have three highways. By railoard you can reach Murray as soon as you can reach Paducah. You can leave Louisville at night and be in Murray the next morning. You can go by way of Paris, Tennessee. The railroad facilities are just as good.

DR. C. G. DAUGHERTY, Paris: One would expect one to get up here and withdraw his second after having such a handsome lady present the cause as was presented for the town of Murray. That sort of influence is likely to overwhelm us. I should say that the advocates for Murray played a trump card when the put such a handsome lady up a the one to invite us.

From a practical standpoint and for the success of the Society, the question of availability and the possibility of reaching Bowling Green is so far ahead of the chances and facilities that are offered at the present time in Murray that I propose this lady invite us next time when they get the roads finished down there.

SECRETARY M'CORMACK: Dr. Mason calls attention to the fact that all the roads are finished that will ever be finished in all probability.

Are there any other nominations?

DR. O. R. KIDD, Paducah: I move that nominations be closed.

The motion was put to a vote, after being duly seconded, and carried. The ballot was cast.

DR. C. W. HIBBITT, Louisville: The ballot stands: Bowling Green 37; Murray 26. (Applause).

SECRETARY M'CORMACK: Upon motion of Dr. Mason, the invitation to Bowling Green will be accepted unanimously for the next annual meeting.

The next order of business is the election of three Councilors. The first is to succeed Dr. W. E. Gardner from the Fifth District, whose term has expired. Nominations are in order. Nominations for Councilor are made by the delegates from the District according to the usage of the Association.

DR. B. F. ZIMMERMAN, Louisville: I wish to place in nomination, if it is not in violation of the rules and regulations, Dr. W. E. Gardner to succeed himself.

DR. A. P. DOWDEN, Eminence: I second the nomination.

DR. L. C. REDMON, Lexington: I move nominations be closed.

The motion was regularly seconded, was

put to a vote and carried.

SECRETARY M'CORMACK: A motion is in order that the ballot of the House be cast for Councilor for the Fifth District.

DR. J. H. BLACKBURN, Bowling Green: I move that the Secretary be instructed to cast one ballot.

The motion was seconded by Dr. Hancock, was put to a vote and carried.

SECRETARY M'CORMACK: I cast the ballot of the House for Dr. Gardner as Councilor of the Fifth District.

Dr. Gardner is unanimously elected for the term of five years as Councilor for the Fifth District. (Applause).

Next is for Councilor for the Ninth District to succeed Dr. S. C. Smith. Dr. Smith was elected by the Council to fill the unexpired term of Dr. Gambill, who resigned. Nominations are in order for Councilor for the Ninth District to succeed Dr. Smith.

DR. J. W. STOVALL: I place Dr. Smith in nomination.

DR. J. L. ANDERSON, Manchester: I want to second the nomination.

DR. L. S. HAYES, Louisa: I move that nominations be closed, and that the Secretary instructed to cast the ballot.

The motion was regularly seconded, was put to a vote and carried.

SECRETARY M'CORMACK: I hereby cast the ballot of the House for Dr. S. C. Smith as Councilor of the Ninth District.

Dr. S. C. Smith is unanimously elected to succeed himself.

The term of Dr. W. M. Martin, Councilor for the Eleventh District has expired. Nominations are in order for the successor of Dr. Martin.

DR. S. H. ROWLAND, Cawood: I wish to nominate Dr. Martin to succeed himself.

DR. CLARK BAILEY, Harlan: I second the nomination, and I make a motion that nominations be closed.

The motion was regularly seconded, was put to a vote and carried.

SECRETARY M'CORMACK: The Chair will be glad to hear a motion that the Secretary be authorized to cast the ballot of the House.

DR. S. H. ROWLAND, Cawood: I make that motion.

The motion was regularly seconded, was put to vote and carried.

SECRETARY M'CORMACK: The Secretary cast the ballot of the House for Dr. W. M. Martin to succeed himself for the term of five years, and Dr. Martin is elected.

Are there any committees ready to report?

Dr. Horine is the Orator-Elect in Medicine, and it is a pleasure to present him as chairman of the Heart Committee.

DR. E. F. HORINE, Louisville: Primarily, I want to thank you from the bottom of my heart for the honor you have just given me.

This is the report of the Committee on Heart Disease of the State Association. At a meeting yesterday the report was unanimously adopted.

REPORT OF THE COMMITTEE ON HEART DISEASE

Your Heart Committee in making its report must first record the sad death of one of its members, Dr. W. Z. Jackson, of Arlington, Ky. He had been a member of this Committee since its organization and was greatly interested in the work. While in attendance upon a difficult obstetrical case he suddenly collapsed and died in a few minutes from what was probably an acute coronary occlusion. In his passing the Committee has lost a valuable member.

During the past year the previously outlined plan of study of heart disease as existing in the state has been continued. It is becoming more apparent that hypertensive heart disease constitutes the greatest single menace in individuals at 40 years of age or above. As to whether this type of heart disease is increasing cannot be stated but that many cases are being unearthed now is true. A rather intensive study of the condition has been in progress for the past eight months. Arteriosclerotic heart disease is also frequently encountered in the older age groups.

Delay has been experienced in the preparation of the series of articles on the newer concepts of heart disease, which had been previously contemplated. The Committee is now happy to report that several of the articles are about ready for publication and it is hoped that space may be found in the JOURNAL for the insertion of one article each month.

During the year a heart clinic was to have been held in the eastern end of the state but because of local conditions it was necessary to postpone this to a later date. The Committee is more than willing to co-operate in this respect with any county desirous of holding a heart clinic.

Addresses concerning the recent advances in cardiology have been delivered before several county and one district medical societies during the past year. The continuance of such work will be cheerfully undertaken.

Respectfully submitted,
Emmet F. Horine, Louisville,
Chairman.
Austin Bell, Hopkinsville,
J. W. Kincaid, Ashland,
Walter Byrne, Jr., Russellville,
John W. Scott, Lexington,
J. R. Morrison, Louisville,
W. L. Tyler, Owensboro,
Silas Griffin, Henderson.

SECRETARY M'CORMACK: You have heard the report of the Committee. What shall be done with it?

DR. B. F. ZIMMERMANN, Louisville: I move it be aopted.

DR. J. R. WATHEN, Louisville: I second the motion.

SECRETARY M'CORMACK: Is there any discussion?

The motion was put to vote and carried.

SECRETARY M'CORMACK: It is a pleasure at this point to call on the Chairman of the Committee on the Women's Auxiliary, Mrs. J. T. Reddick, the retiring President. (Applause).

It is a very distinct honor to present to the House of Delegates, Mrs. J. T. Reddick, of Paducah, Chairman of the Reference Committee of the Women's Auxiliary, and the retiring President of the Auxiliary.

REPORT OF THE COMMITTEE ON WOMEN'S AUXILIARY

MRS. J. T. REDDICK, Paducah: Mr. President, Members of the House of Delegates, Ladies and Gentlemen, I bring you greetings from the Woman's Auxiliary, your own organization that was born at Crab Orchard six years ago. In its infancy it was a feeble child, but as all children must crawl before they can walk, it is beginning to take on strength and make a few steps now.

At Richmond last year we had 314 members reprensenting 18 counties. Today we have 570 members representing 23 counties. We had hoped to especially stress organization this year, and as a steady growth is much more to be desired than high pressure methods we feel this growth is substantial .

Along with collection of historical data for you, we launched a little project of our own at Richmond last fall, Through your courtesy in allowing your wives, mothers and daughters to organize the Auxiliary, it was my very great pleasure to serve as President this last year. And through this office to receive an invitation to the unveiling of the statues of Dr. McDowell and Henry Clay in Statuary Hall in Washington, on March the third. It was really Kentucky Day and I was proud to be one of her native daughters. I was like the man emigrating to Kansas in pioneer days. He had a placard on his wagon reading "Kansas or Bust," but in a few months he came back disillusioned with this placard on his wagon "Ruther be dead in Kentucky than alive in Kansas."

I was especially pleased to have a Kentucky doctor so honored. As no doctor can make a reputation without a patient on whom to practice, we women think the patient in the case of Dr. McDowell's operation should have a fitting memorial. At that time he had no surgical reputation at stake. While she was giving up her life if necessary that all womankind might be benefitted by her heroic service, and so we started a fund at Richmond to be known as the Jane Todd Crawford Memorial. There being in the fund now, $214.78. We presented this in our report to the A. M. A. Auxiliary at Portland this year, and while they did not feel strong enough to take this up as a body, they left it to each state to do what they could. Mrs. McCormack presented it to the Southern last fall, at Ashville.

This is a memorial to a woman by women and was initiated and thus far promoted by the members of the Kentucky Auxiliary. We will appreciate donations from every doctor's wife. And now that the project has been definitely launched by your Auxiliary we hope to be able to interest every woman's organization. We hardly know what form it will eventually take. Maybe a room or building to house your historical material in the form of a Medical Museum. We want to retain the name of each donor. We have sent out three hundred letters and visited and helped reorganize two county Auxiliaries. This organization can foster good fellowship among doctors' families. Your wives are glorified telephone girls, but to leave that occasionally and mix with the other doctors' wives is to find a multitude of fellow feeling.

One educational feature of our work this year was broadcasting health talks from Louisville. During the year we have been able through the courtesy of the United States Health Service and the State Health Board to send out a study course to the Auxiliaries in our State and copies to the Southern and A. M. A. Auxiliaries. Mrs. Brawner, President Elect of the Southern Medical Auxiliary, asked the privilege of distributing it in the other Southern States which we granted with the understanding that they make such modifications as were necessary to fit their state laws.

Mrs. Bunce of the A. M. A. Auxiliary wrote, "I am simply enchanted with your study course. I think it is one of the most progerssive works that any Auxiliary has undertaken at this time. Allow me to congratulate you and your auxiliary on the wonderful cooperation which is now existing and has always existed between the doctors and their wives." I have sent the extra copies out to the States which are not so fortunate and it is proving that the procedure is a sort of missionary work. I herewith present you copies for your records.

We want to thank each one who has helped us in any way to make this a successful year, and especially do we want to thank our Advisory Board, Dr. A. T. McCormack, Dr. V. A. Stilley and Dr. W. E. Gardner. And your Secretary Dr. McCormack.

As you well know the A. M. A. has asked the Auxiliary in the several states to take as one special project securing subscriptions for Hygeia. Unfortunately Kentucky has too few subscriptions to Hygeia. Many of these subscribers come from the laity, who have learned the value of authentic medical facts and health teaching. Every physician should have a copy of Hygeia on his office table where waiting patients may fix in their minds many medical facts the doctor has attempted to plant there. Subscriptions have increased in Kentucky, as you can see by referring to the Auditors report of our Treasurer in the October JOURNAL.

We bespeak for our incoming President the same hearty co-operation that has been accorded us and we hope each County represented will go home determined to have a Woman's Auxiliary to their Medical Society.

And may I wish that each doctor in Kentucky may so live that when he somes to the end of his service, he can say like Carrie Jacobs Bond:

"Dear God you are so good to me,
To give me all earth's beauty free,
The birds to sing through all my life,
The flowers to bloom on paths of strife,
A mountain side on which to roam,
A little path to lead me home,
A sky of every shade and hue,
And then dear God to give me you."

SECRETARY M'CORMACK: It is moved by all the members of the House that this report be received, and seconded by all the others.

The motion was carried by a rising vote.

SECRETARY M'CORMACK: The vote is unanimous. Mrs. Reddick, the House of Delegates desires not only to thank you for coming before us and telling us about your work, but we desire to congratulate Dr. Reddick.

Dr. McClure and I desire to make a contribution of twenty-two cents to the Jane Todd Crawford fund so that it will be $215 instead of $214.78. (Laughter and Applause).

Dr. Hanes has left instructions for me to place in nomination for the honorary position of Sergeant-at-Arms of the Association Dr. J. G. Owsley, of Lily.(Applause). If there are no other nominations, nominations will be closed and the Secretary will cast the ballot of the House for Dr. Owsley as the Sergeant-at-Arms of the Kentucky State Medical Association. (Applanse). Dr. Owsley is elected.

We will have the Committee's report on Control of Cancer, Dr. Frank, Chairman.

REPORT OF THE COMMITTEE ON CONTROL OF CANCER

DR. WALLACE FRANK, Louisville: It seems to us that regardless of the dissemination of information concerning Cancer throughout the country through the Lay Press and by speakers from the medical profession the disease is still on the increase. We would advocate more intensive propaganda and advise the early removal of tumors especially those of the female breast. The people should be impressed with the fact that a sore which does not heal is of importance and a physician should be consulted. Furthermore the women should be taught that irregular bleeding, inter-menstrual bleeding and prolonged menstruation are not normal. At the first sign of such they should consult their physician and not be satisfied with the statement that it is "Change of Life" unless a thorough examination is made.

Not withstanding the fact that numerous investigators are working on the cancer problem we are still no nearer the solution of the cause of this disease. We would advocate the treatment of Carcinoma by the knife, x-ray and radium. In the early stages the disease is local and can be eradicated. Once it becomes widely disseminated palliation is the only thing to be hoped for.

We would advocate a study of the incidence of cancer in this state and would suggest that a uniform method of treatment be outlined. "Cancer Quacks" should be run out of the country as they are the most terrible of parasites deriving their livelihood by holding out to the cancer sufferer hopes of cure when such are impossible.

DR. W. H. LONG, Louisville: I move the report of the Committee be accepted.

DR. J. D. HANCOCK, Louisville: I second the motion.

The motion was put to a vote and carried.

SECRETARY M'CORMACK: We will now have the report of the Committee on Resolutions. Dr. L. C. Redmon, Chairman.

REPORT OF THE COMMITTEE ON RESOLUTIONS

DR. L. C. REDMON, Lexington: The Resolution offered by Dr. W. E. Gardner "On the Hospital For the Insane and Feebleminded" was carefully considered by the committee and we recommend its adoption.

DR. C. W. HIBBITT, Louisville: I second the motion.

SECRETARY M'CORMACK: Is there any discussion? If not, all in favor of the adoption of the resolution make known by saying "aye"; opposed by the opposite sign. The motion was carried.

DR. L. C. REDMON, Lexington: The

Committee considered the Resolution on Cancer offered by Dr. J. Duffy Hancock and recommends its adoption.

DR. J. W. SCOTT, Lexington: I wonder if that doesn't give an impression that cancer is increasing more in Kentucky than it does in other places. Just say in the United States instead of Kentucky.

I think, myself, that this idea of the increase of cancer is largely a matter of more people coming of cancer age than it is the actual increase of the disease.

I would deplore any pronouncement or any declaration from this Society that gives too greatly the impression that cancer is on the increase, other than that more people are living to the cancer age that die of cancer. I believe that is the chief reason for the increase in cancer. I should like to see only the general statement and not give any impression by implication or otherwise that there is more cancer in Kentucky than in other places.

SECRETARY M'CORMACK: You have heard the amendment suggested by Dr. Scott.

DR. L. C. REDMON, Lexington: I accept that amendment, and I move the adoption of the resolution.

The motion was severally seconded, was put to a vote and carried.

SECRETARY M'CORMACK: The resolution as amended, is unanimously adopted.

DR. FRANK BOYD, Paducah: I should like to make a motion that the House of Delegates thank the Medical Society of Louisville for the banquet and entertainment.

SECRETARY M'CORMACK: I am sure he wants to include the Peaslee-Gaulbert Co. for providing the very excellent radio connections which enabled us to hear President' Hoover's address last night, and the thanks of the Association to Drs. Mayo and Fishbein for their very interesting addresses.

DR. L. C. REDMON: I second the motion.

DR. VIRGIL E. SIMPSON, Louisville: And the newspapers for their very excellent publicity.

The motion was put to a vote and carried.

SECRETARY M'CORMACK: Is there any new business to come before the House?

PRESIDENT-ELECT M'CLURE: In view of the fact that the Treasurer is passing out of existence so far as I am concerned I suggest that it would be proper for an Auditing Committee to be appointed whether by this body or by the Council, I don't know. but of course our books are audited as of September 1 since which time certain funds have come into the Treasury. I should like to have a quietus before turning my books over to my most worthy successor, Dr. McDowell.

SECRETARY M'CORMACK: I should like to hear a motion that the Council issue a quietus.

DR. L. C. REDMON, Lexington: I will make that motion.

The motion was regularly seconded, was put to a vote and carried.

DR. B. F. ZIMMERMAN, Louisville: The Committee on Miscellaneous Business, as you know, has had a hard time. a very laborious time. They have had to sit by and hear all sorts of miscellaneous business discussed but never referred to them. They really never had an opportunity to display their ability until the worthy ex-President referred a resolution which was introduced by Dr. Hancock to this Committee, and the Committee begs the privilege of reporting this back to the House of Delegates with its endorsement and moves its adoption.

Dr. B. F. Zimmerman read the resolution concerning the death rate of cancer in Kentucky that had previously been offered by Dr. J. Duffy Hancock.

DR. B. F. ZIMMERMAN, Louisville: The Committee recommends that this resolution be adopted.

SECRETARY M'CORMACK: You have heard the report of the Committee.

Under Robert's Rules of Order this report, having been acted upon by the recommendation of the Committee on Resolutions, to which the resolution was not referred and which usurped the privileges of the modest Committee on Miscellaneous Business, the report of the Committee on Miscellaneous Business will be accepted at this time in lieu of the report of the Committee on Resolutions, as amended.

Recognition of the modesty and efficiency of the Committee on Miscellaneous Business is recognized by the House. The Committee will be discharged with thanks.

DR. L. C. REDMON, Lexington: I move we adjourn sine die.

The motion was regularly seconded and carried, the meeting adjourning at nine-fifty o'clock.

A. T. M'CORMACK, Secretary.

Toxic Manifestations of Barium Chloride in Complete Heart Block.—Schwartz reports the case of a man, aged 50, with complete heart block who, after the administration of 60 mg. of barium chloride, showed within several hours an irregular acceleration of the ventricles with alarming symptoms of extreme breathlessness and signs of circulatory collapse, all of which cleared up with the elimination of the drug.

ORIGINAL ARTICLES

DIVERTICULITIS OF THE SIGMOID*

By Warren P. Sights, M. D., Paducah.

Diverticulitis of the sigmoid is important in the differential diagnosis of abdominal conditions of both the acute and chronic varieties. It is not a rare condition and the diagnosis has been rendered possible by the use of the opaque enema and x-ray. The preoperative term, "Exploratory Laparotomy" is gradually appearing less and less in operative bulletins and it is the purpose of this paper to attempt in a general way to recapitulate the accumulated knowledge of the condition such as will benefit the average physician and surgeon in arriving at the proper diagnosis when the condition is present.

The early observations were purely anatomic and Virchow in 1853 is credited with being the first to describe its occurrence. Very little attention apparently was paid until Graser in 1899 gave a detailed description of a formation in the lower colon which he believed to be an acquired type of diverticulum. Moynihan[1] in 1907 published the first case in England of diverticulitis mimicking carcinoma. Mayo, Wilson & Griffith[2] in 1907 reported five cases of a condition in which the diverticulous sigmoid was excised and studied pathologically. Later, W. J. Mayo[3] reported the resection of forty-two cases for diverticulosis, all of which were of the so-called acquired variety. Telling & Gruner[4] analized and reviewed ninety-two cases, bringing out various diagnostic features. Drummond[5] described the gross and microscopic pathology of the condition but wrongfully called it sacculi of the large intestine. Sacculi of the intestine is a term which should be reserved for the condition in which the haustra show markings such as we find in Hirschsprung's disease.

Acute diverticulitis is wrongfully described at times as "Left sided appendicitis." This term should be reserved for that condition in which there is a true appendicial involvement occurring in non-rotated cecum. Left sided appendicitis causes symptoms so closely resembling right sided appendicitis that description of it plays no part in this paper. The fact that a surgical abdomen is present enforces itself so quickly that the patient receives surgical attention as early as he does in the ordinary appendiceal case. Chronic diverticulitis is an entirely different affair and its diagnosis may tax the ingenuity and capability of the attending physician or surgeon.

Diverticula of the intestines are divided into the congenital, of which Meckel's is a classical type, and the acquired. The chief anatomical differentiation between the two is that the congenital is composed of all three coats of the intestines, while the acquired has been described as hernial protrusions of the mucosa and serosa only. This is not strictly true and contrary to the views of von Rokitansky, Leichtenstern, and others, many examples of acquired diverticula have been described in which each of three coats of the intestines enters, and this is perhaps frequently the case in the earliest stage of every formation. In the sigmoid the distal portion is most often the seat of the abnormality and frequently the diverticula occur as hernial protrusions of the mucosa in to the appendices epiploicae. Usually they are numerous, at times running into the hundreds. On examination of a section of the sigmoid with diverticulosis one nearly always finds feces of varing degrees of hardness and inspissation, even to the point of formation of actual fecoliths. From an etiological standpoint the most widely held view is that diverticula results from increased pressure within the bowel thus being of the pulsion type. This is supported by the fact that they occur mainly in that portion of the intestinal tract where fecal stagnation tends to be the greatest. However, constipation is exceedingly common, while diverticulosis is comparatively rare, and again constipation is much more common in women, whereas, diverticula are more common in men. Undoubtedly more diverticula occur in the fat laden intestines than in one possessing a poor fat covering. Some pathologists are of the opinion that the fat may weaken the musculature by causing gaps between the fibers. Others assume that anatomically there is a weak spot in the musculature where it is pierced by the blood vessels which occurs on the anti-mesenteric border. The sacs ordinarily have a narrow neck, are imperfectly drained, and quite commonly the mouth of the sac is inflamed. In addition to the inflammation of the sac there is very liable to occur a low grade chronic inflammatory process with tissue hyperplasia around the diverticula, at times constricting the lumen of the intestine by a peri-diverticulitis. Grossly this condition resembles hyperplastic tuberculosis of the cecum, but it is well to bear in mind the fact that tuberculosis of the sigmoid is exceedingly rare and no pathological specimen should be so diagnosed unless the microscopic sections show a typical tuberculous condition.

Drummond[5] thinks all diverticulitis is acquired and that it is due to a general deficiency of the non-striated muscle tissue of the individual. He thinks chronic venous congestion and intestinal obstruction are not of prime importance in the etiology. Mechanical factors may enter into the advancement of the condition. Examples of these are formation of fecal concretions and the lodgement of a foreign body, reported by Bland-Sutton. Also if the diverticulum extends into a long epiploic appendage, tortion of the diverticulum may occur. From an inflammatory standpoint we may have an acute, subacute or chronic diverticulitis with gangrene. Peri-diverticulitis is to be differentiated from hyperplastic tuberculosis and from carcinoma of the sigmoid. A differential point to be borne in mind is that in peri-diverticulitis the mucosa is usually intact, hence there will be no blood in the stools, while in carcinoma the mucosa in early involved and the benzidine or Weber test is positive on a meat free diet. Perforation may occur producing a general peritonitis, a localized abscess, a perinephritic abscess, or a fistula which is prone to empty into the bladder. Adhesions are liable to occur involving the small intestine with a possible obstruction high up in the intestinal tract. These adhesions may also involve the bladder with urinary 'symptoms and the pressure of blood cells in the urine, or again, they may involvee the female genitalia. Finally the chronic irritation of diverticulitis can be presumed to cause the development of a carcinoma, and many cases are reported in which carcinoma exists coincidentally with diverticulitis.

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*Read before the Surgical Section of the Kentucky State Medical Association, Louisville, October 21-24, 1929.

The general diagnostic points are worth enumerating. The condition occurs usually in the years between forty and sixty-five and occurs more in males than in females. Patients are usually of robust build with a tendency of obesity, or are individuals who have recently lost weight rapidly from causes other than the diverticulitis. Constipation probably plays some part and it is not uncommon to find alternating constipation and diarrhea in the history of many of the cases. Moderate pain is present, usually it is of a recurrent colicky nature. Tenderness and muscular rigidity are found when there is an inflammatory process present. In thirty per cent of the cases a tumor is palpable in the left iliac fossa. This tumor is usually sausage-shaped and most often is immobile. It may disappear only to reappear later. Twenty-eight per cent of the cases reported in one series exhibited abscess formation with pyrexia and leucocytosis. The elevation in temperature is moderate and irregular. The stools are fairly uniform and regular in being negative to the presence of blood. Bladder symptoms such as frequency of urination and the microscopic finding of red cells occur in about twenty per cent of the cases and are often due to the near-by inflammatory process or to actual adhesions. Schwyzer[6] reports in detail the case of a woman who for a year or more passed what were taken to be stones with the urine. He was able to demonstrate the opening of the sigmoid into the bladder above the right urethral opening and subsequently on laparotomy was able to close the opening and effect a cure.

The difficulty of making a diagnosis at times is quite trying. I recall a case which was under observation for seven weeks and which culminated finally in the introduction of a needle in the region of the left kidney locating an abscess. Later fecal material was discharged through the fistula and a diagnosis of a diverticulitis or a carcinoma of the colon was made. All diagnostic methods including the services of an urologist were used without conclusive evidence. After the evacuation of the abscess the patient improved but had three or four recurrent light attacks of vague left sided abdominal involvement. Seven years later he was operated for an acute exacerbation under a diagnosis of acute diverticulitis which was confirmed on the operating table. The patient died from a general peritonitis and autopsy showed a poorly walled off abscess resulting from an acute diverticulitis. The brother of this patient was seen four years after the first patient's death with what seemed to be acute left renal colic. This second brother had previously had a severe hemorrhage from a gastric ulcer and had also passed stones in the urine three or four times during an eight or ten year period. The finding of blood in the urine, five to seven red cells per field, and the demonstration of a stone in the left kidney almost caused a mistaken diagnosis. A moderate elevation in temperature, a slight rigidity in the left iliac fossa, and a difficulty in obtaining a bowel movement quickly focused attention to the colon. Report of two nurses that they were unable to give an enema satisfactorily brought the patient again under the x-ray and it was found that the barium enema stopped at about the junction of the sigmoid and the rectum. A barium meal was then given which also stopped about two inches from the area reached by the enema and disclosed the fact that many diverticula were present in the sigmoid colon. There was a faint trickle of barium through the stenosed intestine. The stools were negative for blood on a meat free diet on repeated tests. There was a leucocytosis of 12,000 for two or three days. Proctoscopic examination was negative. Bowel movements were finally obtained and the palpable mass in the sigmoid was readily felt. This patient improved so much that in three or four days time operative procedures were dismissed. The mass disappeared at the end of six weeks and the barium passed readily both from above and below. He gained weight, his appetite returned, and to date there has been nothing unusual in his history or symptoms. The evidence in this case, while not as conclusive as in the other brother, warranted the diagnosis, and it is unusual that two brothers are thus reported as having diverticulitis of the sigmoid.

In discussing a differential diagnosis without going into details the following conditions are to be considered. A strangulated ovarian cyst, or a left pus tube could easily confuse at first. Also extra-uterine pregnancy should be ruled out. A pyonephrosis with a displaced kidney should give a history of a Dietl's crisis which would help. Carcinoma of the sigmoid presents many features in common but a careful analysis of the findings with a practically constantly positive Benzidine or Weber test helps differentiate the two. Pain, tenderness, and rigidity are usually absent in carcinoma unless the condition has developed to the point of considerable ulceration with secondary infection. It is surprising how much obstruction may result from inflammation of very small diverticula giving symptoms simulating carcinoma. Syphilis, tuberculous colitis or perhaps actinomycosis at times might be confounded with this condition, but it is well to remember that the cecum is more commonly affected by these conditions than is the sigmoid. I have seen a fecolith in a patient with Hirschsprung's disease present many symptoms of a chronic diverticulitis. Many times during routine x-ray examination of the colon, diverticulosis is found with no antecedent history of its presence causing any discomfort or trouble to the patient.

The treatment of diverticulitis depends of course upon the sequelae. Many cases are poor surgical risks when they reach a capable operator and temporary palliative measures, such as drainage of an abscess or preliminary colostomy, is done preparatory to a later resection of the involved intestine. Radical surgical procedure carries a mortality rate of fourteen per cent in the hands of good operators.

From a medical standpoint many cases clear up, at least temporarily, with the use of a non-residue forming diet, olive oil enemas and anti-spasmodics such as belladona. Irritant laxatives which might increase any spasm present seem to be contra-indicated. A rigid anti-constipation diet with a high fat content and an abundance of liquids to prevent inspissation of feces should be instituted as the acute condition improves.

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MANAGEMENT OF THE SURGICAL DIABETIC*

By Ernest B. Bradley, Lexington Clinic, Lexington.

That there has been much interest in this subject is attested by the voluminous literature that has accumulated in the past few years and recently a whole book[1] on Diabetic Surgery has been published.

While there is no claim for anything original in this paper it may interest all of us to review the subject.

Prior to the discovery and introduction of insulin the diabetic was a terribly poor surgical risk. Reed[2] in a recent study has collected the statistics of twenty different series of surgical patients prior to the insulin era. In these series the mortality rate varied from 5 to 80 per cent with an average of 34 per cent. The lower rates of mortality were obtained even in that day by pre-operative care and by co-operation between the surgeon and his medical associates. Since the introduction of insulin, however, this mortality rate has come down steadily until now the average for all cases is not above 12 per cent and many large series of cases have been reported with rates of 8 per cent and some even as low as 3 per cent. The highest rates naturally still persist in cases of gangrene when amputation is necessary, but McMahon[3] and others report 19 amputations with a mortality of only 10 per cent.

Foster[4] states that in the pre-insulin era the mortality rate of surgery in diabetics was 40 to 45 per cent and that within the first year after insulin was used it had dropped to 12 per cent. He notes that the diabetes in those patients who have surgical infections is mild—so mild in fact that one-half of them only learn that they have diabetes when admitted to hospital for the surgical condition.

In the diabetic patient the change in metabolism caused by infection is a rapid diminution in the ability to use carbohydrate. The mild case becomes severe, lessening of appetite and perhaps nausea and vomiting produce an increased breaking down of proteid and fat, resulting quickly in acidosis and the road to coma is made easy. Anesthetics and dehydration produce the same picture. Foster also emphasizes the necessity for prompt surgical intervention in infections.

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*Read before the Surgical Section of the Kentucky State Medical Association, Louisville, October 21-24, 1929.

Incidence. Joslin[5] says that the incidence of surgery among diabetics is steadily increasing and estimates that every other diabetic will be a surgical case before death. As to the age at which they become surgical, one-third are sixty-one or more years old, one-third are between fifty-one and sixty years of age and the other third are under fifty-one. Of course, the mortality in the surgical group is much higher than in the medical. In Joslin's series for three years the surgical mortality was 11.5 per cent as compared to a medical mortality of only 1.7 per cent.

To obtain even fair results it is essential that the surgical diabetic be treated by one who is skilled in the use of insulin and who knows the meaning of calories and blood-sugar determinations. The surgeon is not expected to be so familiar with these details even as the medical man may be wanting in the operative technic of the surgeon. Team work between surgeon and internist is the key-note of success.

The variety of operations performed upon diabetics is as great as upon non-diabetics but certain pathologic conditions are much commoner than others. Amputations of an extremity or part of an extremity make up nearly one-fourth of the total, while another fourth is contributed by those operations necessitated by infections gaining entrance through the skin such as carbuncles, abscesses, cellulitis, ulcers and the like. It is this half of the diabetic surgery which constitutes two-thirds of the total mortality. Joslin calls these cases preventable as by education and care and cleanliness he feels that most of these conditions could have been avoided. At the Deaconess Hospital in Boston patients are taught how to take care of their skin, especially the feet. Many things which are of no great consequence to the healthy individual are dangerous to the diabetic. He must be taught the danger of infection from trimming corns or from blisters or abrasions on the feet. If predisposed to gangrene, he must also be instructed in the value of walking and proper exercises. Tight shoes and circular garters may be the means of precipitating an attack and some authors go so far as to emphasize the danger of crossing the legs habitually as this may interfere with the circulation in the feet and legs.

Among other surgical lesions frequently encountered in diabetes, although in no way dependent upon it, are: appendicitis, gall-stones, thyroid disease, enlarged prostate and cancer of various organs.

1. Appendicitis may occur as in other individuals and not infrequently diabetic coma begins with pain in the abdomen with nausea and vomiting and the leukocytes may be increased. I have seen one such case operated upon and a normal appendix removed. Sometimes the reverse is true and an acute appendicitis may be mistaken for beginning coma. It is better when in doubt to operate even though occasional mistakes may be made.

2. Gall-stones is another common condition in diabetics and operation should be advised; for the removal of gall-stones makes the diabetes milder and in some cases may prevent the onset of diabetes in those predisposed.

3. Disease of the thyroid is not uncommon in diabetics and here each disease makes the other worse so that operation is in no way contra-indicated. It should be remembered, however, that transient glycosuria in hyperthyroidism does not necessarily mean diabetes. The blood-sugar determination will decide this.

4. Prostatectomy is not an unusual operation which must be performed upon old men with diabetes and the experience of others with these cases has been most gratifying.

5. Cancer seems somewhat more common in diabetics than in others. Cancer of the pancreas, uterus, intestines and breast are not infrequent. Recently I saw a cancer of the male breast in one of my diabetic patients. This was removed by radical operation without any untoward results.

Deaths. While it is felt that a diabetic is more liable than others to infections, the consensus of opinion today is that the danger of a clean wound's becoming infected is slight. However, an infection makes the diabetic worse and the high mortality is due to the fact that amputation and the like are undertaken after infection is already present.

Time to Operate. If the surgical condition is urgent, delay is very dangerous. The operation should be performed and the diabetes treated afterwards. However, if one has the time, the preparation of the patient for operation is most important. It is not so difficult either. The diet should contain from seventy to one hundred grams of carbohydrate, about one gram of proteid per kilogram of body weight and sufficient fat to give twenty-five calories per kilogram. The output of sugar in the urine for twenty-four hours should be measured and enough insulin given to make the urine sugar free. If blood sugar estimations are available, the attempt should be made to get this figure close to normal limits. If time is a factor, a diet such as above is given with sufficient insulin to cause acetone to disappear from the urine for it is not the hyperglycemia but the acidosis that is dangerous. The patient should not be starved. The reserve of glycogen in the liver must be built up and for the rest he will take care of himself. At the Mayo Clinic one hundred and forty grams of carbohydrate are given for four days preceding the operation and sufficient insulin used to control glycemia. The patient should receive 3 hours before operation sufficient carbohydrate to carry him through. Our practice is to give about 150cc. of orange juice with sufficient insulin for the particular case. The patient should have plenty of water and it is a good rule to give 500cc. of salt solution by hypodermoclysis at the conclusion of the operation. As soon after the operation as it feasible the patient should be given orange juice, oatmeal water and milk or milk-toast so that he receives in the first twenty-four hours at least seventy-five grams of carbohydrate with a small amount of proteid and almost no fat. The amount of insulin will depend largely on the urine tests taken every four hours. A pretty good rule to follow is to order the urine tested every four hours with Benedict's solution and if orange color develops, give fifteen units of insulin; if yellow, ten units; and if green, five units. This can be further controlled by blood-sugar estimations if available.

John[7], of the Cleveland Clinic, believes that it is a good routine to give the patient as soon as the operation is completed 250cc. of 10 per cent glucose solution intravenously with ten units of insulin. He administers insulin intravenously in these cases withdrawing blood through the same puncture for examination for blood-sugar. Within two days the patient can return to his normal diet replacing the heavier foods with those more easily assimilated. During convalescence, if the calories are kept down to fifteen or twenty per kilogram of body weight, most diabetics past middle age will become sugar free without insulin. It is thought to be quite important during convalescence to give from two-thirds to one gram of proteid per kilogram of body weight as this seems to promote healing.

In the presence of infection no attempt is made to get the urine entirely sugar-free. The control of acidosis is the end to be sought here. Clearing up of the infection will do the rest. Do not forget that hypoglycemia may occur quickly as the infection subsides and omit insulin if two successive specimens are sugar-free.

Pre-operative blood cultures should be done on all cases with infection in order that the responsibility for septicemia should not be attached to the operator and also for prognosis.

Eliason and Wright[8] give a full discussion from the surgeon's view-point of diabetic gangrene. They emphasize the value of x-ray plates in determining the amount of arteriosclerosis present in the extremities and also advocate thigh amputation in the majority of cases. They believe in gas-oxygen anesthesia and stress the danger of using a tourniquet.

Along with others Collier and March[9] emphasize the importance of thigh amputations on patients with gangrene extending into the foot. With gangrene of a toe with a sharp line of demarcation they state that amputation of the toe alone may be successful. In all cases when there is infection as well as gangrene a thigh amputation offers by far the best chance for cure and for healing of the flaps. In the presence of infection the operation cannot be done too soon. When there is local infection of the toes but no gangrene,medical treatment usually effects a cure.

The Anesthetic. In surgery of the lower extremities, anus and perineum spinal anesthesia seems to be the safest to use. When necessary to use an inhalation method, ethylene and nitrous oxide are probably best. Ether has bad effects on the diabetes itself and as is well known contributes to acidosis. Post-operative vomiting also causes difficulty in feeding the patient. Chloroform should never be used in diabetics. Its use is accompanied by a rise of sugar in the blood and often produces acetonuria. Most authors are agreed that the shorter the anesthesia the less the danger. Even ether may not be very dangerous if the operator and anesthetist are skillful enough. Thus, at the Mayo Clinic, where ether was used as a general anesthetic and where the mortality rate was quite low "it was found on analysis of two series of cases—each of 100 abdominal operations, the first in the Mayo Clinic and the second in a control group, that not only was 36 per cent less ether given at the Mayo Clinic but the period of anesthesia was 53 per cent shorter."[10]

The avoidence of all unnecassary trauma by the surgeon is most important for success. Tourniquets are dangerous in amputations and the use of strong antiseptics often does much more harm than good.

SUMMARY

1. The mortality rate of surgical operations done on diabetic patients has declined steadily since the introduction of insulin.

2. The management of the diabetic is quite different for elective and for emergency surgery. In the elective group the effort is made to get the patient's urine sugar-free and to reduce the blood-sugar to as near normal

as possible. In the emergency group the object is to prevent acidosis.

3. The majority of surgical diabetics have a mild type of the disease made severe by infection. Cleaning up the infection is often sufficient to control the diabetes so that insulin must be reduced or omitted accordingly.

4. In gangrene of the foot, high amputations—mid-thigh—done promptly with a minimum of trauma without the use of a tourniquet and under spinal or gas-oxygen anesthesia offer the best chance of a cure.

5. And finally, full co-operation between surgeon and internist is absolutely necessary.

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DISCUSSION

J. W. Scott, Lexington: Mr. President and Gentlemen of the Society:

The introduction of insulin has, as Dr. Bradley has very well said, brought an entirely new factor into the situation. In a sense it is a two-edged sword. By reason of the fact that insulin is of such great value in the treatment of the surgical diabetic, many people have been led to subject patients to surgery who should not have been subjected to surgery even with the aid of insulin.

Discussion of this subject seems to me to group itself around two heads: the one, whether the patient is or is not diabetic the other, whether being found diabetic, he should be operated upon.

The scope of Dr. Bradley's paper did not permit full discussion of the diagnosis of diabetes.

I think the subject is not out of place here because it sometimes falls upon the surgeon to determine for himself whether the patient is diabetic. In that case, he will often call to his aid the laboratory man. Unfortunately, many laboratory men, while perfectly competent to determine the sugar contents of the blood are not competent to determine from these findings whether the patient has diabetes, strange as that may seem to those not particularly familiar with the disease.

What I mean is this: The time at which blood is taken with reference to food, is of primary importance in determining the significance of its sugar content.

Blood taken the first thing in the morning before food has been taken may show a perfectly normal sugar content, and yet two or three hours after the carbohydrate load is taken the blood sugar percentage may rise to two or three times the normal figure. This is not an unusual thing.

Recently a patient was referred to us to determine the advisability of an operation of election. He had a fasting blood sugar of 135 which, if you consider 120 the upper limit of normal, is a very slight elevation. After having a carbohydrate meal, 1.5 Gm. of dextrose per kilogram of body weight, his blood showed 250 milligrams per cent of sugar. Even at the end of three hours, the blood sugar was still over 200, as I remember, 250 or 300. If we had relied on the fasting blood sugar of that patient we would have considered him hardly diabetic, certainly no more than a mild diabetic, and with the aid of insulin would have advised the surgeon to proceed with the operation. When we found this condition, we advised that an operation of election should not be undertaken, and the patient was not submitted to operation.

The fasting blood sugar is quite inconclusive in the diagnosis of diabetes: if only one specimen is to be taken it should be either two hours after a dextrose meal or three hours after a heavy mixed meal.

After one has decided that the patient is diabetic, then the question arises whether this diabetic should be subjected to operation. It has been very well said that no elective operation should be undertaken upon any diabetic without a very careful consideration of the degree of his diabetes and of the need for the operation.

It is not an unusual thing for an apparently mild diabetic to come to grief under surgical operation because the factors of danger, the accidents, the unforeseen contingencies which may arise are of very much more gravity in the diabetic than in the non-diabetic.

In one class of patients in particular should this be very carefully considered, and those are the patients who have obstructive disease of the bile passages. Obstruction of the bile passage produces degeneration of liver cells, and the patient who has degeneration of liver cells is exceedingly vulnerable, as all of you surgeons know full well. He is particularly vulnerable on account of the fact that destruction of liver cells demands a large amount of dextrose for regeneration. In fact, regeneration takes place very rapidly and very satisfactorily when dextrose in relatively large amount is available. So much so that you surgeons are in the habit of giving large amounts of dextrose to patients who have had some inflammatory condition in the abdomen particularly some obstructive disease about the bile passages which results in this destruction of liver cells.

Now, the diabetic, in the first place, can't have an enormous amount of dextrose thrown into him with impunity. He must have it, of course, and he must be protected with insulin. That is, metabolism of the dextrose must be helped by insulin. Unfortunately, however, the glycogen storage capacity of these patients, and their blood sugar stability, is very small and you are apt, on the one hand, to throw them into insulin shock or to allow them to go into coma. It is very difficult to keep an even keel in such cases.

There is one more thing in Dr. Bradley's paper that I want to commend, and that is the fact that he doesn't place all of this on a blood sugar basis. At the same time, we all appreciate the fact that an attempt to diagnose diabetes satisfactorily without determination of the blood sugar is like a man being compelled to operate with his left hand; it may be a necessary thing; his right hand may be out of business and there may be nobody else who can do it, but he is a distinctly crippled individual. Anyone who attempts to diagnose the presence of diabetes, to begin with, and to treat it without the aid of blood sugar determination is certainly carrying a tremendous load.

E. B. Bradley, Lexington: I want to thank Dr. Scott for his discussion of my paper. Of course, as he said, we didn't go into the diagnosis of diabetes, although I think he goes a little too far in thinking diabetes is quite so hard to diagnose.

In the series of cases with surgical conditions, there are very few that had a normal blood sugar when fasting, even if we call 120 mg. normal. There is an occasional one, but, as I remember the statistics, the average will run about 160 mgs. in a large series of cases, with an occasional one below 120. In the cases that we diagnosed as diabetes, the urine was usually found to contain sugar after an ordinary meal. It is rare in my experience to get a sugar-free urine in the surgical diabetic if the specimen be taken an hour or two after a fairly good carbohydrate meal.

I think, of course, that it helps to have blood sugar estimations and the glucose tolerance test is a good one to make and very valuable in the milder cases. Sometimes as Dr. Scott has mentioned, rather severe cases may show comparatively normal blood sugar readings. However, this is comparatively rare.

As to the obstruction in the bile passages, I haven't seen a case that was operated upon with an obstructive jaundice that had lasted any length of time.

Most of the surgeons seem to think (and this paper was made up from reading the reports of surgeons on surgical diabetic cases) that the removal of gall stones is a comparatively safe operation. This condition is much commoner in diabetics than in others because of obesity— and other predisposing factors.

It was Joslin, himself, whom I quoted. He says that every diabetic patient with gall stones should be operated upon. He feels that the diabetes is made milder by getting rid of the gall-stones, and he cities a good many examples out of his enormous experience. He even goes so far as to think that some patients, who from glucose tolerance tests and blood sugar estimations, seem to be at least potential diabetics, have failed to develop diabetes after being operated upon for the removal of gall stones.

For the rest, I absolutely agree with Dr. Scott. I didn't report the surgical mortality in the series of cases we have had in Lexington. They were mostly cases of gangrene with infection, but I must say our mortality wasn't anything like as low as McMahon's series of nineteen amputations with a mortality of ten per cent. I think most of the surgeons present, who have amputated for gangrenous extremities have not obtained as low a figure as this, but it can be done and it should be our aim.

The principle reasons that others have a lower mortality than ours are these: first, that the medical man has been called in and has had charge of the case with the surgeon, and second, that the surgeon does not hesitate to do a mid-thigh operation on a case of gangrene of the toes if the gangrene is extending into the foot. If infection is present, a mid-thigh amputation should always be done and this is much safer than doing an operation below the knee or at the knee. (Applause).

Metallic Intra-Ocular Foreign Bodies Not Demonstrable On Roentgenograms—In one of two cases reported on by N. M. Black and F. Herbert Haessler, Milwaukee (Journal A. M. A., Oct. 5, 1929), in which an intra-ocular foreign body of iron was not demonstrable on an entirely satisfactory roentgenogram, the foreign body remained in the iris for a year. The mass of tissue that formed about it was diagnosed as a neoplasm since the Wassermann and tuberculin reactions were negative and because they assumed that foreign body had been reliably ruled out by the roentgen examination. A fragment of iron longer than 1 mm. was found in the piece of iris tissue removed, and subsequently a wound of entrance through the cornea was demonstrable. In the other case a fresh intra-ocular fragment of iron lodged in the periphery of the lens was missed because a negative roentgenogram led the authors to assume that a thorough search for possible foreign body by other methods was unnecessary.

FACTORS INFLUENCING SURGERY*

By C. W. Dowden, Louisville.

Successful Surgery depends upon two well known facts: First, the skill of the surgeon. Second, the resistance of the patient to the surgical shock.

Concerning the first, it is my opinion that the skill of the surgeon depends not so much upon the dexterity with which he handles the instruments, nor the particular method he employs of placing and closing the incision, as upon his ability to recognize and treat kindly normal tissues, in which I would particularly include developmental attachments. Failure through ignorance or carelessness to heed this most important point results not infrequently in a state of invalidism that is worse than death itself.

The purpose of this paper, however, is to consider simple methods for determining the patient's resistance, through the presence of abnormal conditions that make surgery unsafe or dangerous. It is important to remember that no organ acts independently and that a pathological process in one part of the body is frequently reflected in the disturbance of function of another organ. This is particularly true of the cardio-vascular-renal apparatus whose functions are so intimately interrelated, and through a study of this triple system a fairly accurate estimate of the patient's resistance may be obtained. It is not alone, however, the presence of albumen and casts in the urine, the presence of a cardiac murmur, nor an increased blood pressure, that constitutes the surgical contra-indication, as was so long believed and taught, but evidence pointing to a disturbance of function.

About twenty years ago Roundtree and Geraghty (1) introduced the now well-known Phenolsulphonphthalein test for renal function which requires no description. Two years later there first appeared a report of the work done by Folin (2) and his co-workers on the chemistry of the blood. It consisted of the determination of non-protein nitrogen, urea, uric acid, creation, etc., an excess of which in the blood indicated a disturbance of renal function. From this point were developed many elaborate tests dealing with intermediary metabolism, consisting of Ambard's (3) and McLean's constants, the Mosenthal test (4) (from Hedinger and Schlayer) (5) following a special weighed diet and others. This marked a new era in the study of renal function, and while the value of such procedures was recognized, the objections were well founded, that comparatively few men could perform them, they required special laboratory apparatus, they were expensive and time consuming and withal were not available to a big majority of the medical profession. One eminent authority, however, stated that no labortaory test was worth while until we were able to do without it—meaning that they served chiefly as standards by which simple tests were perfected. Today simple tests have been perfected, tests that require no laboratory equipment, tests that can be performed by any physician or even one untrained in medical knowledge, and serving the same purpose.

The normal kidney is a very flexible organ, having for its chief function the disposal of water, salt and the end products of protein metabolism. In health and on a full normally balanced diet, with a pint of fluids at meal time only, the total quantity of night urine is much less than the total day urine, rarely exceeding 400 to 500 cc. with a maximum for normal of 750 cc. More than 750 cc. is one of the first and most definite evidences of impaired renal function, and from 500 to 750 cc. should excite suspicion. Normally the specific gravity of the several day voidings (preferably every two hours) and the single night specimen, will vary more than eight points, from the highest to the lowest, the highest exceeding 1.018. A variation of less than eight points and in severe cases a difference of only one to three, at very low levels, is one of the most important signs of renal insufficiency and indicates the failure of the kidneys to concentrate urine. The output of urine greatly exceeds the daily intake of fluids because the kidney is attempting to eliminate its waste products through a lower concentration. Fixation of specific gravity at a high level may occur in acute nephritis and in passive congestion of the kidneys, and at times when no disease is present if the patient has not taken sufficient water or where there has been excessive loss of water through the skin by perspiration. Absorption and elimination of oedema at the time of the test will also fix the specific gravity at a low level and is at times confusing.

This simple procedure is a modification of the Mosenthal test, (4) but it has been further simplified into the water dilution test and the concentration test by Volhard and Fahr, (6) indicating as their name suggests, the concentrating power and the diluting power of the kidneys.

If these simple procedures could be (and they should be) a part of the hospital routine with the nurses chart showing the intake of fluids, and the day and night output of urine with the specific gravity of each voiding, the physician would have before him, not one single test, but exactly what the kidney is doing from day to day.

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*Read before the Surgical Section of the Kentucky State Medical Association, Louisville, October 21-24, 1929.

Aside from its value as an indicator of renal function the urine often supplies other valuable information. The presence of sugar will rarely be overlooked in the usual examination but how often does one test for the presence of acetone (independent of sugar). Surely its presence offers a most valuable therapeutic hint and is not likely to be ignored by the successful surgeon in either his preoperative or post-operative management. Theoretically at least, the determination of excessive amounts of urobilin in the urine should and probably does offer just as early and as accurate information of disturbed liver function as any other, and in simplicity it compares to the tests for albumin and sugar. It indicates not merely hepatic insufficiency but helps to differentiate the type of disease that is responsible for jaundice when it is present. Since urobilogen is the product of the action of putrefactive organisms in the intestines, on bilirubin, it naturally follows that where there is complete obstruction, such as occurs from carcinoma of the Pancreas, that there will be no urobilin in the urine because none enters the intestines—a useful differential diagnostic test. It is also useful in differentiating other types of hepatic disease, and in my opinion is as valuable as the many tests, more elaborate, that have been introduced the past few years. These include tests for bilirubin in the blood and consist of the Icterus Index and the Van den Bergh reactions; the retention in the blood stream after injection of such products as Phenoltetrachlorphthalein, Bromsulphthalein, etc. No single test so far has served to measure the entire functional capacity of the liver and the fact remains that clinical signs and symptoms first direct our attention to the liver. It should be kept in mind that jaundice is the most striking and tangible sign of hepatic disease. It may be so slight at times as to be doubtful but careful inspection of the sclerotics by a proper light will assist very materially.

I have attempted to describe a few very simple tests to take the place of blood chemical tests. The determination of blood chlorides is, I believe, a most valuable procedure and when low offers a distinct surgical contraindication. Its description is hardly warranted in a paper describing simple functional tests and I have no simple substitute to offer. The same may be said of cholesterolemia in large quantities, which we have found to be of considerable diagnostic value.

And what other information coming from a study of the blood may be of value to the surgeon. An increased number of leucocytes with the polynuclear variety predominating, the low hemoglobin content, etc., are too well known to comment upon. In the past year I have seen three cases of typical Pernicious Anemia that had been under treatment for months for Gall Bladder disease and in the three years previously, three cases that had been operated upon for gall-stones. I saw one patient that died ten days later from malignancy of the stomach that had been under treatment for a year for Pernicious Anemia. This indicates a symptomatology that is frequently common to gall-bladder diseases, malignancy of the stomach and Pernicious Anemia. It indicates furthermore either a failure to do complete blood count or to properly interpret it. The high color index, the characteristic picture of the stained smear, the leucopenia, etc. should point the way. The reticulocyte count is of great value and with a special stain can be done by anyone familiar with the differential count.

The presence of malarial parasites, a slow coagulation or bleeding time, are conditions that may influence the surgeon to postpone or even forego the proposed operation. The blood Wassermann should in my opinion be a routine pre-operative procedure. It will explain, often enough to justify it, certain obscure symptoms referable to the gastro--intestinal tract (Crisis of Tabes) that will save a patient a needless operation and his surgeon no little embarrassment.

The status of the Arneth Count and formula, with the right and left shifting, while not difficult to perform, is not sufficiently established to comment upon.

The heart continues to be the chief organ around which the concern of the surgeon centers, both before and after the operation. He is not so particular as to the presence of any specific lesion but he does want to know just what the heart is able to do. The electrocardiogram is therefore of no particular value to him, although we all recognize its diagnostic value. Dysponea on exertion, edema of the ankles, certain irregularities, the presence of a presystolic or diastolic murmur, are signs and symptoms likely to influence him. Tests of cardiac function depend upon the response of blood pressure and pulse rate to exercise tests and and how promptly they return to normal with rest. These are all simple procedures for testing the heart capacity and are available to every physician. Volumes could be written on this subject alone but I will pass it with the statement of fact that never before in the history of medicine has the sufferer from heart disease been offered the opportunity to live a long life that he has the present day. This is not through cure of his disease but by determining his heart capacity from time to time and by adjustment and readjustment of his habits of life so that he is always living within his heart capacity.

The low metabolic rate is a fair indication of a lack of resistence and is far more frequently associated with a general exhaustive state, in which the thyroid gland shares, than in a primary hypothyroidism. Such exhaustive states are often a result of chronic infection, particularly in the tonsils and sinuses, the respiratory and biliary tracts. The test is extremely simple but it requires too much time for the busy practitioner. There is a striking relationship between metabolism and pulse rate in normal individuals and numerous facts further attest that in general a low pulse rate prevails under conditions in which the metabolism is lowered. Associated with this usually is a gain in weight and such symptoms as extreme exhaustion, lack of energy, etc. A simple method for approximating the low metabolic rate is the modification of a formula suggested by Read, (7) whose formula, however, was applicable with greater accuracy to the higher metabolic rates. This formula is as follow: B.M.R. = .55 (Pulse rate + .7 Pulse Pressure) —70. I will show you (slide) the records of ten patients, with Basal Rates below —20%, the corresponding pulse rates, and the figures obtained by the formula. For this purpose the pulse rate should be obtained under the same basal condition as the metabolic rate determinations.

Since the x-ray examination is not a simple diagnostic procedure and should always be done by one especially qualified in this line of work, it has no place in this discussion.

The fact that the careful estimation of the patient's resistence means so much to the successful conclusion of the operative procedure has brought the surgeon and the internist closer together than ever before. Instead of the question "medical or surgical" for our patients, it has become "medical and surgical."

Men are being highly trained to determine the cause of death at the autopsy table. Another group of men is being trained to interpret the signs of disease with the microscope, the x-ray, the chemical laboratory, the electrocardiograph, etc., and this is as it should be; but who is being trained, or rather training himself to interpret those symptoms which are the very earliest evidence of disease and whose detection means so much to the future welfare of the patient and the community. It is the general practitioner. He sees the first chill, and hears the first cough and properly interprets the hectic flush of tuberculosis and beginning fevers. He recognizes the characteristic facies of certain heart conditions and learns of the breathlessness on exertion. He detects the loss of weight, the headache, and properly interprets nocturia and frequent urination. Such knowledge does not come from the hospital or laboratory, but through his opportunity to watch the individual over long periods of time, see the disease at its inception and observe its progress through the vicissitudes of life.

I have the greatest respect for the physician who in a short time can, with only such aids as his five senses and a few simple tests, arrive at the same conclusion as another after days of investigation with all the artificial aids to his common sense. Both are doing all they know to do for the benefit of their patient and no criticism should follow either method. If there is feeling at all it should be one of pity and sorrow for the one who must call to his assistance various artificial measures to accomplish what the other determines with only his common sense and faculties. For the latter listens and he hears, he looks and he sees, he palpates and he feels, where as so often, the other, listening he hears not, looking he sees not and palpating he feels not. Unless he disgrace himself and deny his patient that which he is entitled to expect, he must call to his assistance such information as may be supplied by the laboratory, the x-ray and various other instruments of precision. Do not censure or criticize him but rather pity him for the lack of ability to use the natural aids which were born with him.

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Read's Formula as follows: B. M. R. = 0.75 (pulse rate plus 0.74 pulse pressure) — 72.

DISCUSSION

J. R. Morrison, Louisville: I appreciate very much Dr. Dowden's address because what I think he is trying to bring out is that after all we have to depend in the beginning on very simple methods and utilization of our senses, sight, feeling and so forth.

I will illustrate this by the bedside lecture I was giving at the City Hospital a few days ago. I said to the students who came to my clinic, "We have here a case of hydrothorax. Will you tell me how we are going to determine that?"

One of them said, "We will have an x-ray picture."

I said, " But we are in the country, we can't get an x-ray. What about it?"

The next man told me something equally complicated. It was the fourth or fifth man I had asked. Who said, "I believe I would take off his shirt, look at him, feel him and thump him a little bit."

I said, "Isn't that just like that old song, from 'Babies in Toyland' Put down six and carry two?" Gee but that is hard to do."

That is hard to do, gentlemen. That is the thing I think Dr. Dowden is bringing out here. At least, I appreciate it because I know that laboratory work is of great advantage; but when we can use our common sense it ought to help us a great deal. (Applause).

PERFORATIVE DUODENAL ULCER, SOME OBSERVATIONS UPON DIAGNOSIS AND TREATMENT*

By J. Garland Sherrill, Louisville.

Duodenal ulcer occurs with much greater frequency than was formerly believed. Perforation of this type of ulcer also occurs with some degree of frequency. This accident makes a serious surgical abdominal calamity.

The prompt recognition of the lesion as well as its serious nature and the prompt employment of surgical measures for its relief mean restoration to health and efficiency while delay in the application of treatment brings a fatal result. It is particularly to impress these facts on your attention that this topic is considered.

Quite a number of conditions lead to confusion in the diagnosis of the cause of sudden severe upper abdominal pain. Among these may be mentioned:

(1) Perforative appendicitis where this rudimentary structure lies in close proximity to the gall-bladder.
(2) Acute hemorrhagic pancreatitis and acute suppurative pancreatitis.
(3) Perforation from gastric ulcer.
(4) Gangrenous cholecystitis with a leak.
(5) Severe gallstone colic from sudden obstruction of common duct.
(6) Hernia of stomach into chest.
(7) Para duodenal hernia with strangulation.
(8) Volvulus.
(9) Other forms of ileus.
(10) Typhoid perforation.
(11) Renal stone.
(12) Diaphragamatic pleurisy.
(13) Abscess of liver.
(14) Acute pneumonia.
(15) Pulmonary thrombosis.
(16) Pulmonary collapse.
(17) Pulmonary edema.
(18) Angina pectoris.
(19) Coronary Occlusion.
(20) Acute pericarditis.
(21) Acute dilatation of the heart.
(22) Acute gastric dilatation.
(23) Acute indigestion, so-called.
(24) Gastric crises of lues.
(25) Mesenteric thrombosis.

The accurate diagnosis of a perforative lesion is not easy in every case, as is shown by the large number of conditions producing similar symptoms.

The occurrence of sudden sharp, severe pain in the right upper quadrant with pallor, sweat, syncope and marked rigidity is always of serious import. When these symptoms are present a diagnosis of perforation from duodenal ulcer is justified. The conditions mentioned above should all be considered as possibilities in such a case. A careful anamnesis and close observation will usually give sufficient evidence upon which to base a correct opinion. The additional evidence of an ulcer history is suggestive.

Time is such an important factor in determining the outcome of a given case that promptness in its recognition is essential. It has been our good fortune to have most of our cases of this type referred by practitioners who are close observers and of sufficient acumen to recognize the perforation. The message usually received is "emergency case of ruptured duodenal ulcer coming in for immediate operation, have everything ready."

In practically all of our cases the diagnosis has been made accurately before the patient came to the operating table, usually, therefore, the so-called exploratory operation has not been necessary. In a few cases where cardiac or pulmonary conditions caused similar symptoms, operation has been avoided either because of accuracy of observation, surgical intuition, or because of the assistance of the best medical diagnostic skill.

The literature is so full of the differential points in diagnosis of this lesion that only brief mention of the more important ones can be made, even in the absence of previous digestive disturbance. A number of perforations have occurred suddenly without the patient recognizing any digestive disorder. The sudden onset, the severe pain, the marked boardlike rigidity of the right upper abdomen are quite characteristic.

The roentgenologist may give considerable aid in some cases since free gas in the abdomen is at times recognizable early. In later cases with subdiaphragmatic abscess the lesion can be readily recognized on the x-ray plate. The employment of a barium meal in a suspected perforation is not recommended for obvious reasons, delay additional escape of fluid into the abdomen, etc. Its value however in the detection of peptic ulcer prior to perforation cannot be overestimated.

Previous discomfort, loss of flesh, nausea,

Read before the Surgical Section of the Kentucky State Medical Association, Louisville, October 21-24, 1929.

vomiting, regurgitation, of food, sour stomach, hematemesis, melaena are symptoms which may have presented in the history obtained and when present add to the certainty of diagnosis.

In one case coming under observation the history of peptic ulcer was so typical and the patient had been under such competent medical men each in agreement in the diagnosis of peptic ulcer that with a large hematemesis and severe pain in the abdomen the diagnosis of impending actual perforation of ulcer was justifiable. There was present however, sufficient doubt to lead to the conclusion that operation was not indicated, when further symptoms showed pulmonary collapse to be the basic pathology and determined the wisdom of non-interference. The autopsy showed no evidence of ulcer either past or present while the pulmonary collapse and the cardiac condition caused his death. It may be supposed that coronary occlusion would not be mistaken for ruptured duodenal ulcer, yet the symptoms are so similar that only careful observation can prevent error.

C. Pilcher in the Archives of Surgery 1929 XVIII, 2046, reports two cases of coronary occlusion in which the diagnosis of perforated duodenal ulcer was made each patient complained of severe, sudden pain in the upper abdomen and one had in addition, the marked board-like rigidity usually present in ruptured duodenal ulcer.

Acute hemorrhagic pancreatitis is characterized by John B. Deaver as "one of the most agonizing seizures known to mankind." Sudden and serious collapse accompany the pain. The latter persists in its intensity even after the collapse has passed. The pain may be felt in the right or left hypochondrium or in the epigastrium. Vomiting is an early and persistent symptom and is rarely absent. Vomiting is not a prominent symptom of duodenal perforation. Halsted called attention to the peculiar cyanotic appearance of the abdomen in acute hemorrhagic pancreatitis, not observed in duodenal ulcer. Rigidity is not extreme in acute pancreatitis, but there is present more of a sense of resistence and of an indefinite mass. Early the blood count in pancreatitis may be normal but it increases with time and in proportion to the acuteness of the pathologic process.

Perforative cholecystitis is not so abrupt in its inception as perforative ulcer, the illness usually being ushered in with a pericystitis due to ulceration or to a localized gangrene of the gall-bladder. Some hours of illness therefore, usually precede the leak, with discomfort, actual pain, tenderness, swelling jaundice and rigidity present before the sudden exacerbation of pain results.

The pathologic dividing line between gastric and duodenal ulcer is so narrow that there is no marked difference in the symptoms. While for the most part there is marked similarity in the symptoms of each, certain symptoms of differential importance are noted. A more definite train of digestive symptoms have been present in gastric ulcer. Hunger pain relieved temporarily by the ingestion of food, soon followed by sour stomach, burning pain, nausea, belching, regurgitation, vomiting and in some instances hematemesis.

The immediate seizure is preceded by severe epigastric distress and the symptoms of shock, pain and rigidity are seen in both conditions.

Vomiting is more likely to occur and distention is marked in gastric lesions, while vomiting is rare and retraction is the rule in duodenal perforations.

Absence of liver dullness is seen in both cases and when present is positive proof of a leak.

There are several very interesting observations with reference to duodenal peptic ulcer which may be mentioned.

The larger percentage of these ulcers occur in males, ranging from 75 to 90%. At once the question arises, why is the male affected so much more frequently than the female? Many circumstances have been considered as active in a causative way as rapid bolting of food, alcoholic liquors, the use of tobacco, etc., but as yet there is no conclusive evidence of the cause of this discrepancy in proportion.

Another fact that seems to stand out is that ulcers of the duodenum, which bleed, infrequently rupture, at least in the early or acute stage. Moreover they appear to respond more satisfactory to rest, regimen and medicinal measures and rather promptly reach apparent cure. Indiscretions in diet and habits of life may promote recurrence, which is not so infrequent.

The fact that complete and in many cases permanent cure results, after simple suture of a perforated duodenal ulcer which has resisted all other methods of relief previously is somewhat surprising.

It is also difficult to explain why such healing takes place so readily and so promptly. Can it be due in part to the relief of tension upon the margins of the ulcer after its base is destroyed, either by the rupture or by the mechanical approximation of the edges by suture?

The healing takes place apparently as well after cauterization of the ulcer, followed by suture as by suture alone. Personally it has been found preferable not to use the cautery.

If the duodenal ulcer is conceded to be the result of an infarct from some distant focus of infection, it is quite reasonable to conclude that rupture of the ulcer lessens the local infection, removes damaged and necrotic tissue, and results in a vascular change which restores the part to normal. In other words; changes an infective and inflammatory process into a more nearly normal histological reparative process.

All that can be said is that the exact phenomena in the process are not known but most surgeons agree that healing takes place after operation for perforation, no matter what particular technique is used.

With reference to excision of the duodenal perforated ulcer, we have concluded that in most cases resection is not necessary, as healing progresses just as well from simple suture. In a few of our cases resection has been employed with the same good result as simple suture.

At present resection would only be employed when to allow the ulcer to remain might lead to cicatricial contraction. We do not disagree with Balfour's Precept, "that a gastric ulcer should be removed, if removal is feasible in any operation carried out for its cure and it is equally well known that it is usually unnecessary to remove a duodenal ulcer." This rule seems to hold particularly true in all operations for perforation from peptic ulcer.

We are forced to admit that the treatment of non-perforative ulcers of this type, either gastric or duodenal, may be brought to recovery by treatment either medical or surgical in a large percentage of cases.

It is also true that under either medical or surgical care there will be some recurrence. The exact causes for such recurrences are not fully understood.

Crile attaches the greatest importance to the nervous factor in the production of peptic ulcer. He states that physicians handling a large clientele after a busy season, show evidence of ulcer and return after a nice long vacation completely free from symptoms but soon show a recurrence after a few weeks in active practice.

The proper time to institute surgical measures in a given peptic uncomplicated ulcer is always debatable, operation is only to be employed after a fair trial of medical measures for relief.

It is not necessary to await an admission that medical treatment has failed. Dr. W. J. Mayo's answer to the question, when should operation be advised in peptic ulcers?, is: "after nine complete and permanent medical cures."

When however, perforation occurs there can be no debate as to the necessity for intervention.

DISCUSSION

Louis Frank, Louisville: Mr. Chairman and Gentlemen of the Society: I think the really important part of Dr. Sherrill's paper is that dealing with the recognition of perforation, namely the diagnostic side. The symptomatology differs a bit with variation in the location of the ulcer, in other words is somewhat dependant upon the site where the perforation takes place. In the typical cases, as we hear them described, those that have acute perforations with acute marked intra-abdominal symptoms, the ulcer is usually situated anteriorly. While we may have acute symptoms also in those that occur posteriorly either above or behind, they are nevertheless the ones that are shut off very quickly and in which as a rule the symptoms of and the developments after the perforation is of a more chronic character and they are the ones that most often eventuate either in perigastric or sub-diaphragmatic abscesses, in which the large air areas may be shown by means of the x-ray. On the other hand perforations on the anterior wall give rise to the very acute and more definite symptoms which are so often mistaken for acute fulminating appendicitis. These are the ones in which the perforation or rather the ulcer lies as stated upon the anterior wall. And I may say that it is sometimes quite difficult to distinguish the perforation from an acute fulminating attack of appendicitis.

It has been our observation that not all of these cases give, at the time one sees them, a history of pre-existing digestive disturbance, and this makes the diagnosis correspondingly more difficult. However, subsequently, if the patient lives, one may upon going into the history again carefully find a definite story of previous digestive disturbances.

I think it is probably useless to dwell upon the train of symptoms which these patients have, but certainly the most prominent symptom which we find, as has been mentioned and stressed by the essayist as aiding not only in making but in confirming and differentiating a diagnosis, is the absolute board-like rigidity over the entire right side of the abdomen. This is a pain and rigidity that is not relieved by morphine and many of these patients have of necessity had morphine before we see them. We think there is, a rule, no difficulty—or should not be at least—in distinguishing the acute perforations from acute pancreatitis. In the latter there is present a much more prolonged and much more pronounced shock. In addition they present other symptoms by which one should be able to easily recognize the condition.

My own experience and my own belief is that it is hardly advisable to use the x-ray in making a diagnosis of the acute perforation. If I had the slightest suspicion in my mind that a patient had an acute, perforating, either gastric or duodenal ulcer, the x-ray would be the last laboratory aid I would call to my help. I would not want to subject the patient to the ingestion of barium for diagnostic purposes. I think that would be inexcusable, and I believe the symptoms are sufficiently sharp and definite to justify immediate exploration or, if you don't like to use the word, immediate operation without such ultra-refinement of diagnosis as would be had by the use of the x-ray. Once or twice we have opened the abdomen of a patient believing we had a suppurating appendicitis and have found a perforated duodenal ulcer. I think no harm was done to these patients because the lesion being immediately recognized and repaired recovery ensued.

I am sure that all patients with perforations do not die as a result thereof, not meaning in saying this that they should not be operated at once. After the abdomen is opened just what precise procedure is to be carried out will, I think, depend upon the individual surgeon and his experience. Personally, we believe that ordinarily only the perforation should be closed. Further if it is not advisable on account of the patient's condition, or for any reason to do at this time a switching of the stomach contents by a gastro-jejunostomy, it should be done at some subsequent period, otherwise further trouble may follow.

As I said a moment ago, not all patients with perforations die. I have in mind a young man we saw who unquestionably had had a perforation quite a while previous to the time we saw him. The evidence was complete from the history. We saw him with a subsequent second perforation more chronic and a large abscess. At operation we did not even attempt to either find or close the leak. It was probably closed at the time because the perforation itself, as a rule, will close very quickly if the patient lives any length of time. We simply drained his abscess. Symptoms of obstruction subsequently developed, we opened the abdomen again to find all evidence of adhesions or disturbance around the seat of his previous perforation, and at the seat of the abscess, had completely disappeared.

I think the point in this paper as said in the beginning is to recognize the perforation. Recognize at least, that you have an acute abdomen that requires immediate surgical interference. What you may do at the time of such interference and what I may do may differ entirely in its technique. We may differ in our procedure. That is however not a point to quibble over. The point is that the patient should be opened at once and such means, as in your experience have proven best, should be taken to save the individual. As a rule if not too much delay, most of them will recover and one may proceed to a later operation directed to a permanent relief. (Applause).

Emmet F. Horine, Louisville: The essayist has very properly called our attention to the necessity for differentiating perforating ulcer from acute coronary occlusion. He does not mean to imply that there is any difficulty in differentiating the typical case of coronary occlusion from the acute abdominal condition. However, the atypical case of acute coronary occlusion may afford considerable confusion, and it is necessary to very carefully weigh the symptoms in acute coronary occlusion against those encountered in a perforated duodenal ulcer.

The pain in acute coronary occlusion is intense. It is, as individuals express it, the severest type of pain they have ever experienced. In the typical case it is located substernally and radiates upward into the neck or into the left arm, or into both arms. But in the atypical case of acute coronary occlusion the pain may be epigastric. It may be upper abdominal in location and therefore simulate an acute abdominal condition. There may, or may not, be abdominal rigidity. Of course, the majority of patients with coronary thrombosis do not have rigidity, but the presence of rigidity does not, of itself, indicate that the condition is positively abdominal in origin.

The pain is unrelieved by opiates. Even large doses of morphine will not always relieve the pain of coronary occlusion while the patient with a perforated abdominal ulcer is relieved.

Blood pressure studies may aid in the differential diagnosis especially where the previous level of the blood-pressure is known. In acute coronary occlusion the blood-pressure will fall very materially, sometimes 100 millimeters in as many minutes. I recall one case of a man who had a known level of systolic blood pressure of 220, and with the inception of the acute coronary occlusion it dropped to 120 within just a few hours. A definite fall in blood pressure would point toward an acute coronary occlusion, whereas in perforating duodenal ulcer the blood pressure would be normal, or somewhat above that individual's normal.

Further, in acute coronary occlusion, if we have time for laboratory investigations we will find that the electrocardiograph will be of material aid in differentiating the two conditions, because the electrocardiogram encountered in an acute coronary occlusion is quite typical and, of course, in perforated ulcer there would be no electrocardiographic changes.

The history is of some value in differentiating the two conditions. Of course, in the perforated duodenal ulcer we have a previous history of digestive disturbance, whereas in many cases of acute coronary occlusion we have a previous history of angenal attacks.

J. Garland Sherrill, Louisville, (in closing): Mr. Chairman, Ladies and Gentlemen: I thank these gentlemen very much for their kind discussion. No body has taken me to task, anyhow, whether I made errors or not.

Dr. Horine has made a rather clear statement of the symptoms of acute coronary occlusion which I think is rather important in the diagnosis. The acute coronary occlusion usually has an increased leukocytosis, and leukocytosis increases shortly after the rupture of duodenal ulcer, depending on the patient's resistance.

One point I wish to impress upon you is that duodenal ulcer ruptures more often without the patient having had symptoms which attracted his notice than almost any other intra-abdominal condition. Most other intra-abdominal lesions that go to perforation, such as gastric ulcer, cause severe pain. They usually have given the patient such distress prior to the perforation that he has noticed it and, as Dr. Frank has called attention to the fact, the patient won't give you a history of previous digestive disturbance when you are called to see him for an acute perforated ulcer of the duodenum. After the operation is over and the patient is better, and he then goes back into his history you will find he connects back six, seven, eight or ten years of disgestive disorders. In the case of soldiers, you will find they always get back thirteen years to the time of the War. (Applause).

TREATMENT OF DUODENAL FISTULA. REPORT OF CASE*

By J. M. Salmon, M. D. and W. L. Gambill, M. D., Ashland.

External duodenal fistula is a condition which is always serious and frequently fatal.

It probably occurs much more frequently than is generally supposed; certainly there have been many more cases than have been reported in the literature.

Cameron (1) in 1923, was able to find reports of only 28 cases.

Colp (2) however found 53 cases in the literature and added 8 cases from the records of Mt. Sinai Hospital, making a total of 61 cases.

The most frequent cause of duodenal fistula is trauma inflicted in the course of operative procedure or occurring as the result of external violence.

Analysis of the 61 cases reported by Colp showed 23 to have followed operations on the gall-bladder; 14, duodenal ulcer; 10, nephrectomy; 6, resections of the stomach; 6, traumatic rupture of the duodenum; 1, carcinoma of the pancreas and 1, intestinal tuberculosis.

Operative trauma may be intentional as in transduodenal removal of stone from the common bile duct. Usually it is accidental as in operations upon the gall-bladder, bile ducts or in the course of a right nephrectomy. W. J. Mayo (3) reported four cases occurring as the result of trauma after nephrectomy.

Gauze drains inserted to the site of duodenal wounds have been responsible for many cases of fistula and should never be used.

Hendon (19) says "It seems remarkable that the organ (duodenum) so frequently escapes injury during the execution of surgical procedures for hepatic renal, gastric and cholecystic pathology."

External violence (wounds and contusions of the abdomen etc.) are reported by Harrington (4), Colp and others.

After trauma, perforation of duodenal ulcer is the condition most frequently followed by fistula. It is generally agreed that the chief obstacle to the healing of a duodenal fistula is the proteolytic action of the trypsin of the pancreatic juice. In duodenal ulcer, with perforation, the margins of the ulcer are of low vitality and are immediately eroded. The tissues lining the track of the drain are ingested and the abdominal wound opened and enlarged.

Although trypsin acts normally in the alkaline juices of the small intestine, Howell (5) has shown that it is capable of digesting the tissues of the abdominal wall when the fistulous discharge is acid. Indeed, the discharge is usually acid if the fistula is near the pylorus. Clinical observation, as shown in the appended case report, confirms this statement.

The loss of fluids and food through the fistula causes immediate and serious reduction of vitality and nutrition.

Studies by Walters and Bollman (6) demonstrate that there is a marked toxaemia due to the loss of acids and chlorides of the gastric and pancreatic juices with consequent reduction of the chloride concentration in the blood. This results in alkalosis and increase of blood urea. Duodenal fistula usually develops from four to nine days after operation. The discharge from the wound suddenly becomes profuse and contains bile and mucus. The dressings are saturated and require frequent change. The skin, adjacent to the wound, becomes red and the epidermis is exfoliated. The abdominal wound opens and enlarges. Erosion of the sinus with hemorrhage and peritonitis may occur. All fluids swallowed are immediately discharged through the fistula with resulting dehydration and starvation. Moynihan (7) says "It is remarkable with what rapidity a patient succumbs who has an external duodenal fistula."

The mortality of external duodenal fistula is high although in the last decade there has been a marked improvement. Thus Pannett

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*Read before the Surgical Section of the Kentucky State Medical Association, Louisville, October 21-24, 1929.

(8) in 1918 stated that "recovery from a duodenal fistula, even with adequate surgical treatment, is a rarity."

Colp (loc.cit) in 61 cases found a general mortality of 51%. Of these, 36 were treated conservatively with 47% mortality; 25 surgically with 54% mortality. Of 14 cases following operations upon gall-bladder and ducts, 10 were treated conservatively with no deaths and 4 by operation with 2 deaths. In 14 cases following perforation of duodenal ulcer the mortality was 64%. Nine of these were treated conservatively with 7 deaths and 5 by operation with 2 deaths.

In 10 cases after right nephrectomy the mortality was 40%. Of these, 6 were treated conservatively with 3 deaths (50%) and 4 by operation with 1 death (25%).

From these statistics it will be seen that the general mortality is high. In fistulae following operations upon the gall-bladder, the opening is small and treatment by conservative methods has been fairly successful, the mortality being 15%.

The treatment of external duodenal fistula may be surgical or conservative.

The surgical procedures which have been employed are as follows:

1. Suture of the duodenal opening.
2. Suture with gastro-enterostomy, with or without pyloric occlusion.
3. Jejunostomy.

It is apparent, when one considers the pathology of duodenal ulcer, that simple suture, except in retro-peritoneal cases, is worse than useless. The danger of re-opening the wound, in the presence of infection, is great. Sutures do not hold in the friable tissues of the bowel and the fistula will not remain closed.

In retro-peritoneal cases the experience of Mayo (loc.cit.) and others appear to demonstrate the propriety of immediate suture. It has not been successful in peritoneal cases.

Gastro-enterostomy without pyloric occlusion is not effective. The discharge from the fistula continues, food and gastric secretions passing through the fistula instead of through the stoma.

Gastro-enterostomy with pyloric occlusion has a mortality of 85%. Moreover, its performance does not guarantee permanent closure. (Berg (12) Cameron (13) and others).

Jejunostomy has been employed with success by Kelling, (9) Pannett (loc.cit) McGuire (10) and Erdmann (11). Erdmann ingeniously employed aspiration of the sinus and re-introduced the aspirated secretions through the jejunal tube. In McGuire's case "the result was immediate and gratifying, all discharges, except bile through the drain in the common duct, shortly ceased. Incision closed in three weeks."

Jejunostomy is a comparatively simple operation which may be performed under regional anaesthesia. The Witzel method is preferred and the tube is passed through a hole in the omentum as suggested by C. H. Mayo. When employed in conjunction with irrigation and aspiration of the fistula, it seems to meet all the indications for treatment.

It is unnecessary, however, in many cases which show immediate and progressive improvement under the suction and irrigation treatment.

Conservative treatment has been increasingly successful during the past six years.

The principles upon which it is based are the following:

1. Reduction of the amount of discharge.
2. Dilution and removal of discharge (irrigation and aspiration).
3. Maintainance of water balance and chloride concentration of blood. (Hypodermatic or intravenous introduction of normal saline solution).
4. Protection of wound and adjacent skin.

Reduction of the amount of discharge is accomplished by withholding fluids and food by mouth. This not only reduces the actual amount of discharge of ingested material but, by lessening salivary secretion, inhibits the secretion of the gastric and intestinal glands.

Atropine and sodium fluoride have been administered for this purpose with varying results.

Since the chief factor in tissue destruction and skin irritation is trypsin, this ferment must be immediately diluted and removed. This is done by continuous irrigation and aspiration of the fistula. The kind of solution used for irrigation seems to be of less importance than it's continuous application. Cheever (13) employed sterile water continuously for five days and nights after which the fistula closed. Potter (14) believing that trypsin was inactive in an acid medium, made continuous application of decinormal hydrochloric acid and dressed the wound with strips of gauze saturated with beef juice in order that the proteolytic action might be exerted upon the beef juice rather than upon the tissues of the wound. He reported nine cases successfully treated by this method.

Palmer (15) employed sodium fluoride in 1% solution for irrigation but did not aspirate. He was obliged to discontinue because of the irritation of the skin. Erdmann (loc.cit.) Cameron (loc.cit) and Lahey (16) report successful results from continuous suction.

In Cameron's case the diet was not restricted, sole dependence being placed upon continuous suction. The fistula closed on the eleventh day. To compensate for the loss of fluids, it is necessary to resort to intravenous or hypodermatic injections. Normal saline solution, with glucose 10%, is administered in this way. Einhorn (17) employed a duodenal tube introduced to a point well beyond the fistula for supplying the patient with food and fluids. He reports two cases treated successfully by this method. Jejunostomy is indicated if these measures fail. Skin protection is secured by the application of zinc ointment to the area adjacent to the wound. Strips of gauze impregnated with vaseline are applied to the margins and floor of the abdominal wound.

Case Report

The patient, male, aged 56, a physician, was admitted to the hospital on January 13, 1929. He gave a history of rather profuse hematemesis one year prior to admission with subsequent anaemia, digestive disturbance and loss of weight. His health had steadily improved and was about normal when, about one week before admission, he began to have epigastric pain and discomfort. On January 12, he was suddenly seized with severe pain in the epigastrium followed by shock. Morphine and stimulants were given and he was taken to his home. On the following day he was taken to the hospital and prepared for operation for ruptured duodenal ulcer.

The abdomen was opened, under regional anaesthesia (abdominal field block by novocaine, ½%), through a right rectus incision. The peritoneal cavity contained gas and free fluid. A perforation of the anterior wall of the duodenum was found two inches from the pylorus. Stomach and gall-bladder were apparently normal. A moderate degree of local peritonitis was found and the margins of the perforation were indurated.

The perforation was closed by two rows of No. 00 chromic gut. A soft tube drain was inserted and the abdomen closed by tier sutures of chromic gut and silk worm gut stay sutures. The pulse was very rapid and weak at the conclusion of the operation. Digitalone was administered every 4 hours and sodium bicarbonate and glucose solution given by proctoclysis.

The general condition improved steadily, with the exception of an annoying cough, until the seventh day when there was an enormous increase in the discharge from the wound. The dressings were saturated and the wound margins and skin became excoriated and inflamed. Bile appeared in the discharge and it was evident that a duodenal fistula had developed.

All nourishment by mouth was discontinued but a small amount of water was allowed. Nutrient enemata were given consisting of malted milk, albumen, peptonized milk and bouillon. Sodium chloride solution (1%) and glucose (10%) were given intravenously and by hypodermoclysis. The skin was protected by zinc ointment and zinc stearate powder. The margins and floor of the wound, which had opened, were covered by strips of gauze saturated with vaseline. Continuous irrigation of the sinus and continuous suction were immediately instituted in the following manner:

Two soft rubber catheters, No. 20 for the inlet and No. 26 for the outlet, were tied together with silk, so that the tip of the former extended about 1½ inches beyond the tip of the latter. The inlet catheter tip was introduced into the sinus to approximately it's bottom, the suction tip being in the external opening of the sinus. An irrigating reservoir was attached to the tube connected with the irrigating tip and was filled with 2½% sodium bicarbonate solution. This solution flowed continuously into the sinus by the Murphy drip method. The suction tube was connected with an electric suction pump, as suggested by Cameron and the aspirated fluid was collected in a large bottle placed on the floor beside the bed.

The amount of soda solution introduced and the amount of aspirated fluid were accurately measured every twelve hours to ascertain the actual amount of discharge. The electric motor burned out after twelve hours after which an ordinary faucet suction apparatus was attached to the bath-room faucet and connected with the suction bottle by tubing. This proved more satisfactory and permitted finer adjustment of the aspirating force. The amount of discharge gradually lessened until, at the end of six days, the intake and output of fluids were exactly equal. The improvement of the skin and wound inflammation was immediate after the institution of irrigation and aspiration.

Treatment was discontinued on the seventh day, the wound remaining dry. Recovery thereafter was uneventful and the patient left the hospital on February seventh.

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DISCUSSION

C. C. Howard, Glasgow: This is a very interesting paper. I have only one suggestion to make that I had a very smart nurse teach me. That was not exactly in regard to the duodenal fistulas, but fistulas following enterostomies. Strap the patient with adhesive real tight, and put the adhesive directly over the wound. Don't take it off. Sponge over the top and keep strapping them over. I have been doing that for about a year. All of them have closed except one.

It was a very simple thing. She commenced doing that, and since then I have carried out this procedure in six or eight cases, with adhesive next to the wound, strapped tightly. When it begins to leak around the wound, strap it again. Don't take it off too often. Don't take it off until you just have to. Be sure that your patient is very quiet and put it right back.

Give them boiled milk. We have had a lot of trouble in closing them, I have used the suction. I think that is a great thing. This other procedure has helped us.

I don't know about this; I think the suction is the thing here. I am speaking of enterostomies. You can strap them and improve all of them. (Applause).

S. C. Smith, Ashland: In that connection, I wish to report a case I had in 1924 which was a case of perforated duodenal ulcer that walled off and pocketed. I got the case six weeks after perforation, and on opening the abdomen there was a large mass under the right costal margin. On opening the abdomen a gallon of fluid and food drained out, but there was no evidence of pus.

After the wound was thoroughly sponged out so that I could make an exploration of what I had inside the cavity, I found an opening in the duodenum that would readily admit the index finger with room to spare. Due to the long time that had elapsed, the margin of the wound was necrotic and, in fact, the whole cavity showed evidence of pressure necrosis and partial digestion from the digestive ferments that were in the cavity.

The matter of closure was out of the question because one couldn't hope to have sutures hold in a wound like that. So I merely drained, and I used the impregnated gauze not having any suction apparatus except an electric one which I didn't think feasible. I used the impregnated gauze to cover the whole area all around the wound at first.

Instead of feeding by mouth, I gave rectal feeding until the rectum refused to tolerate it any more. Then I began fluid by mouth. The first glass of milk the patient took, two-thirds of it came out through the wound. I decided the other third went on where it should go, and I kept up the treatment which necessitated frequent changing of dressings.

After about two weeks, the wound showed evidence of healthy granulations with no evidence of digestion of the abdominal wall. So I resorted to the method Dr. Howard mentioned of pulling the wound close together with adhesive, and in six weeks' time the fistula was completely closed. She was sixty-five years old at the time of operation and is still living and has very little discomfort from her previous duodenal condition. (Applause).

J. W. Scott, Lexington: If the hour isn't too late, Mr. Chairman and Mr. President, I should like to discuss a detail of the post-operative treatment.

I think it is well to call attention to the fact that nutritive enemata should contain only glucose. I believe if the patient gets sufficient glucose he does not need protein. Therefore, the most irritating factors in these nutrititive enemata are avoided, such as peptonized milk, and so on, which break down the tolerance of the rectum within a very short time; while an isotonic glucose solution can be used rectally for an indefinite length of time and cause no irritation whatever. After all, water and dextrose are about all we can hope to get by enema, barring drugs.

I was greatly interested in the essential parts of Dr. Salmons paper, and I don't mean to bring up a little thing of this sort which is of very small importance compared with the very great interest of the unusual case that he has reported. (Applause).

J. M. Salmon, Ashland, (in closing): I have nothing to say except to answer the statement of Dr. Scott, and that is that we appreciated the value of glucose but we still think there is something to be gained by nutritive enemata. In this case, the rectum did not become intolerant and we got along very well with it, although we do think the glucose does serve the most valuable function of the foods given.

As to strapping of the ulcers, it may be interesting to know that that has been done in a number of cases, but particularly when the opening is small and there is no great amount of trypsin discharged in the wound.

Those who have read the literature will remember that your own eminent surgeon, Dr. Hendon, treated a case by packing the fistula with gauze impregnated with compound tincture of benzoin. In that case, simply firm packing did it. That will do very well in an ordinary case where the opening is not very large. If you have a very large opening, and the irritating duodenal discharges are coming out at a great rate so that the dressings are saturated and the skin becomes irritated, I think this method will fail.

I thank you. (Applause).

REDUCING THE MORTALITY OF ACUTE INTESTINAL OBSTRUCTION*

By Frank K. Boland, M. D., Atlanta, Ga.

Mr. President and Members of the Kentucky State Medical Association:

I thank you for the invitation extended to me through my friend, Dr. Vance, to present a paper on this occasion. The state of Crawford Long salutes the state of Ephraim McDowell. I bring you greetings from the president of the Medical Association of Georgia, and best wishes for an enjoyable and profitable meeting.

May I take a moment to pay a tribute to a son of Kentucky, who for the past forty-seven years has been a resident of Georgia, where he is one of the leading members of the medical profession and one of the leading citizens of the state. I refer to Dr. William Simpson Elkin, a native of Lancaster, and an alumnus and former trustee of Centre College. He bears a name well-known in a state famous as the birthplace of great men. I am told that his great-grandfather, David Elkin, a circuit-riding Methodist minister, in 1817 preached the funeral of Nancy Hanks.

It is as a medical educator that Dr. Elkin has made his greatest contribution to his adopted state of Georgia. During the twenty years that he was dean of the medical school of Emory University, from 1905 to 1925, by his energy, wisdom and self-sacrifice, he made that institution the peer of any in the South. It gives me great pleasure at this time to pay honor to this distinguished gentleman in his home state.

For many years acute intestinal obstruction has been given so much consideration by speakers and writers that one is inclined to apologize for submitting another paper on such a threadbare subject. And yet, when we realize that in spite of all that has been said and written about the necessity of early diagnosis and prompt surgical treatment that an average mortality of 50% continues to stare us in the face, the time to terminate the discussion has not arrived. My mortality in a series of fifty private cases is 46%.

The fact is recognized that fatal results must follow in a condition which so profoundly affects the bodily functions, regardless of how soon the diagnosis is made and how promptly and skillfully the operation is performed. The loss of one in ten patients is considered reasonable, but how shall we characterize the loss of five in ten patients? Moynihan calls a mortality above 10% the mortality of delay, and the cost of delay is the theme of this paper.

Three parties are subject to criticism for the deplorable statistics, the patient or his family, the physician, and the surgeon, sometimes one, sometimes all three. Of these the fault lies least often with the patient or his family. While it is true that abdominal pain usually is ascribed to something the patient has eaten, and calls for large dose of salts or oil, a patient stricken with acute intestinal obstruction is apt to appear alarmingly ill from the beginning, and little time is lost in summoning a doctor. Pain is the most conspicuous and constant symptom, and nothing will determine a person to seek medical aid like pain. If the diagnosis of obstruction is announced, and no opiate given to create a sense of false well-being, operative treatment seldom is refused.

The burden of the record falls upon the medical profession. When a physician sees a patient suffering from severe abdominal pain which at first was intermittent, and then became constant, accompanied by nausea, with or without vomiting, and is told that he has not been able to have a bowel movement for the past twelve, twenty-four or forty-eight hours, the subsequent history of the case may pursue one of several courses. The possibility of obstruction may not occur to the physician. He may think he is dealing with a case of food poisoning or dietary indiscretion, and order more and bigger purgatives. If he is sure of the diagnosis, such treatment may be all right, but he cannot be sure of the diagnosis. The safer policy then would be to clean out the intestinal canal above and below, and not attempt immediately to force anything through it.

The case may be one of obstinate constipation or of fecal impaction. If so, repeated high enemas will relieve the former condition, and a finger in the rectum, which always should be included in the examination, generally will disclose the impaction. But the trouble may originate entirely outside of the alimentary canal. Several years ago Lockwood called our attention to the difference between a patient whose bowels do not move, and one whose bowels cannot move, and cited the example of a child whose abdomen was about to be opened for obstruction when further study revealed tubercular meningitis. Lead poisoning and the gastric crises of tabes must be remembered as causing such symptoms. Moynihan warns us that uremia may

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*Read before the Surgical Section of the Kentucky State Medical Association, Louisville, October 21-24, 1929.

present symptoms simulating intestinal obstruction, and Cole (1) has reported a case of uremia which actually was operated upon for obstruction.

At the first examination of the patient strangulated external hernia should be eliminated as the cause of the sickness. I recall the case of a modest woman whose strangulated femoral hernia was not recognized until late because she would not allow her doctor to expose enough of her body to see it.

Unfortunately, none of these conditions produces such symptoms so frequently as acute intestinal obstruction. Of course the medical attendant is called upon to rule out such other causes of the acute surgical abdomen as appendicitis, pancreatitis, diverticulitis and others, a feat in differential diagnosis not always accomplished, and not necessary, so far as therapeutic indications are concerned. If it is decided that the case is one of obstruction, the next problem is has the patient paralytic ileus, which may yield to persistent medical measures, or has he mechanical obstruction, which should be operated upon within the next hour. If the symptoms have arisen during convalescence from a laparotomy or other operation, paralytic ileus is entitled to especial consideration. If the patient is in the post-operative period it is devoutly to be hoped that the symptoms are due to paresis and not to mechanical causes. Secondary operations under such conditions are fraught with much danger.

The differential diagnosis between paralytic ileus and mechanical obstruction may be difficult or impossible. The prayerful injunction is not to postpone operative treatment after conservative therapy has been given a fair trial. The pain of mechanical obstruction is more liable to be localized than the pain of ileus and the peristaltic waves as a rule may be seen, felt and heard only in true obstruction. If the condition is not remedied by enemas, hot applications and pituitrin, spinal anaesthesia may be given a trial. This procedure resulted favorably for us in three cases of ileus, and gave temporary relief in one case of mechanical obstruction. If only intestinal paresis exists, within a few hours (sometimes as many as 12) after the injection of 2cc. of spinocain pain and abdominal distention disappear and there is a large evacuation of feces and gas. The *modus operandi* has not been clearly explained. It is said that the splanchnic inhibitory reflexes are blocked so that the vagus motor reflexes have full play.

No grave ailment depends so much for diagnosis upon clinical methods and so little upon laboratory methods as acute intestinal obstruction. It is to a carefully taken history, listened to attentively, and to thorough physical examination and observation that we must turn for the diagnosis. Laboratory aids, even the x-ray, avail but little. No doubt one of the factors in the failure to recognize the condition earlier lies in its comparative rarity in the practice of the average medical man who is first consulted. If acute obstruction was as common as appendicitis, or if there was as positive a means of diagnosing it as there is of diphtheria, the present high death-rate would be reduced more than half.

The attending physician may recognize intestinal obstruction promptly and ask for surgical assistance, or he may persist in medical treatment until the hour of grace is passed, and then suggest, or agree to, operative interference. I believe that the chief cause for delay in these cases is waiting for the development of the complete classical textbook picture. Not so much that fecal vomiting is the essential feature, but that all the other traditional symptoms must exist, pain, vomiting, distention, and that most indispensable sign, complete failure of any gas or feces to pass. As Burgess (2) says, the man who waits for the perfect picture of obstruction will seldom make a mistake in diagnosis, but he will lose many patients.

Awaiting the absolute stoppage of gas and feces seems to be the principal cause of the deadly dilly-dallying. Small quantities of gas, feces, mucus or blood may pass almost until the death of the patient, depending upon the nature and location of the obstruction. In intussusception, which should be the easiest form to diagnose, it is well known that the passage of blood and mucus continues. The same may be true in obstruction from mesenteric thrombosis.

The higher the obstruction the longer it will take the distal gas and feces to be evacuated. High obstruction is classed as particularly dangerous. Two reasons may be assigned, the more time required for the complete cessation of intestinal discharge, and the slow appearance or lack of distention. The absence of these signs postpones the resort to surgery, the only hope of the victim of obstruction.

After the attending physician has referred the patient to a surgeon in ample time to save life, the surgeon himself may be responsible for the fatal procrastination. Aware that the prognosis is bad in any event, he may hesitate to act, not so much from fear of hurting his batting average, but because he gives away to the family's entreaty to try somebody's pet enema, or because the absence of some sign arouses the false hope that obstruction is not complete. Thus indecision permits the golden opportunity to slip away. How often have we seen an abdomen opened for obstruction and no obstruction or other surgical condition found? I have seen it once, a case of paralytic ileus, in which the patient recovered after the laparotomy.

If the operation is done soon the patient is in better shape to undergo a radical procedure, or the simpler and safer the procedure may be. Often cutting a band of adhesions or releasing an intussusception turns the trick. In most cases, however, the obstruction has gone on so long that the patient is suffering from the loss of fluids and chlorides, and is in a state of acidosis and shock, brought about by vomiting and sweating, the outpouring of fluids into the intestinal canal above the point of obstruction, and the absorption of toxins. Haden and Orr have empasized the importance of deferring operation in such cases long enough to administer at least 1000 cc. of normal saline solution intravenously or under the skin. I have found an hour's delay for this purpose time well spent. Five per cent glucose may be added, or from 20 to 40 cc, of 50% glucose may be given intravenously. Since witnessing several violent reactions result from glucose introduced into the vein, I have not been so enthusiastic over this method of administration. Fallas (3) reports a death following two doses of 1000 cc. of normal saline containing 7.5% glucose, given twenty-four hours apart, and mentions two deaths in the experience of other writers.

The anesthetic must be chosen to suit each individual case; the more serious the condition of the patient the less anesthetic should be used. Many patients may be operated upon under local anesthesia, some require gas, some ether. Spinal anesthesia is gaining in popularity. Its main advantage appears to be not in its greater safety, but in the increased relaxation which it produces. In Miller's (4) study of 343 cases of intestinal obstruction the mortality following operations under general anesthesia was 50%, spinal anesthesia 70%, and local anesthesia 78%. Though it is not so stated, it is presumed that general anesthesia was used in the most favorable, and local in the least favorable cases.

The difficulty and danger of late operation is augmented by the distention which has supervened. The obstruction may be hard to find, and almost complete evisceration may become necessary. The ideal sought is to locate the point or points of obstruction and relieve them—by excision and anastomosis if this is the only safe way. In the majority of cases which have existed for from twenty-four to forty-eight hours, however, the patient's condition is too bad to permit extensive, prolonged operative manipulations. Then enterostomy or colostomy should be done. These are decompressions of the intestinal canal, and are done as emergency measures, analogous to decompressions of the brain, cholecystostomy for decompressing the gallbladder, and suprapubic cystotomy for decompressing the urinary bladder. It is customary to think of enterostomy or colostomy only as a first-stage, life-saving operation, but often, especially in obstruction from some inflammatory process, such an operation results in permanent relief.

Enterostomy or colostomy is not such a successful procedure in paralytic ileus. In this condition only a small segment of the gut empties through the tube, after which drainage ceases. In those desperate cases in which one feels that the state of the patient will tolerate no more than mere drainage of the first piece of distended bowel encountered after opening the abdomen, colostomy is more apt to function satisfactorily than enterostomy. On account of its greater mobility, vascular strangulation at some undiscovered location is more liable to coexist in the small intestine than in the colon. Such strangulation, if unrelieved, will terminate in gangrene and peritonitis. Again, an operation of the Mikulicz type gives better results in the large than in the small intestine. In this operation, after excision of the segment of gut which is damaged by gangrene or tumor growth, the divided ends are not united but are left open temporarily to drain through the incision.

A case of acute intestinal obstruction, well managed, requires almost as close attention as a woman in the last stages of labor. One cannot afford to leave and forget it. The greater delay there has been in operating the more intensive post-operative care there must be. Water, chlorides and glucose are given in large amounts at frequent intervals. Repeated gastric lavage is a valuable accessory. Enough opium is used to allay pain and restlessness. If enterostomy or colostomy has not been performed the bowels are encourage-ed to move at the earliest moment consistent with safety, depending upon the nature of the operation which has been done. The frequent insertion of a colon tube left in position for considerable periods may cause an early and grateful expulsion of intestinal contents.

Fecal fistulae are prone to persist after enterostomy, in spite of using Witzel's method and passing the tube through the omentum. We treat such fistulae by continuous suction drainage with a small hydraulic pump attached to a water faucet. An electric pump may be used. This system saves dressings, keeps the patient much cleaner and more comfortable, and shortens materially the number of hospital days. So far it has been used in the Wesley Memorial Hospital in twelve cases of fecal fistula and has cured every case.

No attempt is made in this paper to discuss every phase of the tremendous subject of acute intestinal obstruction. Many important matters are left untouched, such as the causes of obstruction, and the prevention of post-operative adhesions by more careful peritonealization in abdominal operations. The whole purpose of the paper is a reminder of our fearful mortality in obstruction, and a plea for a mind and heart to know it and treat it while the hour is yet good. By this means only may we hope to improve a record of which we cannot be proud.

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DISCUSSION

G. A. Hendon, Louisville: Mr. President and Gentlemen of the Surgical Section: It is a very great privilege and the source of a very wide range of education to have been permitted to listen to the paper presented by Dr. Boland,and I am sure that every man feels as I do that the cause of the relief of intestinal obstruction has been advanced appreciably by the effect of this paper.

The lowering of mortality, of course, is the primary object. The curing of people is what we are here for. Two or three things were mentioned, as ways and means which reminds me very much of the man who wanted to buy something, and he said there were three reasons why he didn't. The first one was that he didn't have the money. Of course, the other two didn't amount to anything. (Laughter).

There is just one way to really and truly lower the mortality of intestinal obstruction, and that is to make an early diagnosis. The other ways are of too little importance to merit serious attention. The only way to make an early diagnosis is to be willing to risk your conclusions on the development of the very fewest symptoms you can think of. Any case of acute pain in the abdomen accompanied by vomiting, and an absence of diarrhea, is intestinal obstruction. That obstruction may be mechanical in character or it may be due to the paralysis of a segment of bowel, but it is obstruction just the same. Those three symptoms are the only ones necessary to pay any attention to, whatever.

Of course, I am speaking about doctors making the diagnosis. No doctor in his right mind, or with his mind on his business, is going to stumble into an uremia or a case of meningitis. Men who do that are thinking about something else. But those three symptoms are the only ones to which you need to pay the slightest attention: vomiting, abdominal pain, and absence of diarrhea. In other words, give me two symptoms a patient has and one symyptom he has not, and I will tell you whether he has obstruction. This may sound terse, and it may sound trite, and it may sound a bit boastful, but it has certainly served my purpose on numerous occasions.

We must take into consideration the fact that we have mechanical obstructions, and that we have septic obstructions. A segment of bowel just a few inches in length may be paralyzed by some septic influence and an obstruction will be produced with just the same certainty and the same obstinacy as if a string were tied around that gut.

Before I leave that point of early diagnosis, I want to tell you that the mortality is in absolute proportion to the number of hours that the bowel has been obstructed. If you operate on an intestinal obstruction one hour after the obstruction occurs, your mortality will be one per cent; two hours, two per cent, and so on. I once operated on a patient who had been obstructed 112 hours. (Laughter).

Of course, mistakes in diagnosis which mean delay can be laid on the family or on the family physician when the surgeon most often commits error in failing to resist the impulse to do a complete and ideal operation. That is the cause of as much as, or more, mortality than delay is. When an abdomen is open we find our obstruction, we find gangrenous intestines, we find pathology, and we attempt to remove it. The result is that we make a beautiful, complete operation and we have a death as a result.

It would be a great deal better if we would do an enterostomy in these cases, and we would then get rid of what is known as functional irritation, which is a very important factor, by suspending the function of the bowel. By drawing off the fluid from above, and by lessening the efforts, the bowel undergoes a sense of relaxation and the spasm is relieved. I have seen voluntary movements of the bowel following operations of this kind. I have a case in the hospital at the present moment.

Enterostomy is specific intestinal obstruction that is due to mechanical causes, if done before ileus supervenes. Remember that. But if paralytic ileus does exist, whether due to a septic paralyzation of the bowel, or whether it follows upon a mechanical obstruction, your enterostomy is going to do a very little bit of good.

I want to take just a moment to draw your attention to a very simple and a very rapid means of doing an enterostomy which I have employed, and that is to bring out a loop of bowel that you select, put on your clamps as close together as you can to leave you room, squeeze everything out and take a mushroom catheter and introduce through an opening into the bowel; then plicate your intestine up around the catheter but do not sew on the catheter. The reason why that presents a great advantage is on account of the fact that if you attempt to connect two substances of unequal density, the one of lesser density will invariably give way, and in these damaged bowels the density is a great deal less than the rubber tube that you attempt to sew to, and leakage occurs. With this umbrella, or mushroom catheter you do not sew to the catheter at all. You merely build your plications up around the catheter. When you are ready to discharge the patient, or are through with the drainage, you can cut the stem off and let the head of the catheter drop into the bowel.

Another point is in searching for the site of the obstruction. Not over five minutes should ever be employed for the searching of the obstruction. If you can't find it in five minutes, you had better leave it alone. If you find it within five minutes, half the time you had better leave it alone. (Laughter).

Another point that we often forget about in finding the obstruction is that the collapsed bowel is always in the pelvis. It is never in the abdominal cavity. By following the collapsed bowel, you can always reach the point of obstruction with a great deal more safety and more rapidly than if you follow the distended bowel.

J. R. Wathen, Louisville: There is just one point I should like to speak to, and that is the early diagnosis of acute intestinal obstruction which follows abdominal operations, the type we most often see; the type that seems to cause the most delay.

As a rule, most all patients vomit following abdominal operations within the first twenty-four to thirty hours. Most all patients cease vomiting after that. The next twenty-four hours is the quiescent period. If, at the end of forty-eight hours up to seventy-two hours, they suddenly have distention, pain and vomiting, look out. That is the beginning of mechanical obstruction, and nothing else.

How are you going to diagnose it? Take your stethoscope, place it above the navel between the ensiform cartilage and the navel and listen and you will find, before any fecal vomiting has occurred, exaggerated peristalsis. Place your stethoscope below the navel and above the pubis and you will find no peristalsis.

Alvarez, of the Mayo Clinic, has demonstrated this positive in experimental work in the diagnosis of mechanical obstruction. (Applause).

Frank Boyd, Paducah: Referring to the high mortality in acute intestinal obstruction, it has been my experience that the use of morphine, hypodermically, given previous to a careful investigation which should lead to a correct diagnosis of the condition, is largely responsible for the high mortality. A reasonable careful physician will not give morphine until he has excluded intestinal obstruction. When this is done, the patient will reach the operating table much earlier and this will materially decrease the mortality.

Frank P. Strickler, Louisville: I should like to say a word about the anesthetic. Dr. Boland mentioned spinal anesthesia. I think beyond a question of doubt, that spinal anesthesia is the type of anesthesia to use in intestinal obstruction. Very frequently, by its use, a true mechanical obstruction may be diagnosed, as rather frequently, following the use of spinal anesthesia in non-mechanical obstruction cases, there will be an evacuation of the intestinal content. Also, there is not as much danger of your patient getting an aspiration broncho-pneumonia or even drowning on the operating table in his own vomited intestinal content. I have seen this happen where the stomach had been previously washed out.

All men who operate on cases of intestinal obstruction, know that you have quite a bit of difficulty in controlling the intestines. They keep bulging out of the abdomen every time you try to explore the abdomen. If you operate on your patients under spinal anesthesia, you will absolutely do away with this difficulty. The effect on the intestines under spinal anesthesia is that they stay put like this stick which I lay on the table. You can close the abdomen without any difficulty and do your work without any interference from the intestines.

Another thing I want to emphasize is the statement that Dr. Wathen made regarding Alvarez' work. I do not think there is any question of a doubt that if you will become familiar with Alvarez' work, you will be able to make an early diagnosis of obstruction. If you haven't read Dr. Alvarez' little monograph on the physiology of the gastro intestinal tract, certainly it will be time well spent to get it and read it because it is a very illuminating work.

Leon L. Solomon, Louisville: As internist, I desire to add a word to the scholarly surgical paper by Dr. Boland.

In addition to diagnostic points, emphasized by him and others, including those referred to by my friend, Dr. Hendon, I bring up for your consideration, two findings, common to cases of obstruction. These, I consider outstanding diagnostic points; they are:

Absence of temperature elevation and a slow pulse rate, wholly out of proportion to other symptoms.

In no other serious abdominal condition will the temperature be consistently recorded as normal or subnormal, and the pulse consistently observed with little or no acceleration, except in intestinal obstruction. These two negative findings invariably put me on guard and have been responsible for my reaching the conclusion, at an early hour, to order surgical intervention.

When there is persistent abdominal pain, accompanied by nausea, with (or without) vomiting, and constipation, not relieved by enemata, I look upon a persistent normal or subnormal temperature and a slow pulse as the two cardinal diagnostic points of intestinal obstruction. To postpone surgery until there is rise in temperature and acceleration of pulse invariably means to wait until there is prostration and collapse, making surgical intervention of no use. (Applause).

Frank K. Boland, Atlanta, Ga., (in closing): I thank the gentlemen for their discussion and would like to show a slide. I think that Dr. Hendon has written one of the best papers on this subject that I have ever read. It is as refreshing as going to a good show to hear him talk.

Enterostomy often is followed by fecal fistula, which is hard to cure. I would like to call your attention to a method of treatment of fecal fistula, by means of a water pump attached to the faucet in the patient's room, as shown on the slide. The action of the pump creates a vacuum in a large bottle which is connected by a tube with the fistula. The continuous suction keeps the wound clean, saves dressings and makes the patient much more comfortable than by any other method of treatment.

An electric pump may be used instead of a water pump, but the latter costs only seventy-five cents and there may be several working in a hospital at the same time, whereas, one electric pump is very expensive. It is only necessary for the water to run in a moderate stream and the additional water bill is only twenty-five cents in twenty-four hours.

Sometimes the suction is facilitated by continuous drop irrigations with boric acid, or some other solution. I have made use of this method of treatment in a good many cases and have found that it will cure fecal fistula in at least one-fourth the time required by any other dressing. I am sure that it has cured several cases which otherwise would have been submitted to operation.

BOOK REVIEWS

THE MOST NEARLY PERFECT FOOD

By Dr. Samuel M. Crumbine and James A. Tobey, Price $2.50. Published by Williams and Wilkins Co., Baltimore, U. S. A.

There has just come to our desk a copy of this extremely valuable and interesting book. It includes facts which make it useful and informative to teachers and students of agriculture, home economics, dairy science, medicine and public health. As an up-to-date treatise on every phase of milk as a food, it should be of great assistance to practicing physicians as well as those engaged in the dairy industry and we want to recommend it most highly.

THE CHALLENGE OF CHRONIC DISEASES

—By Ernest P. Boas, M. D., Attending Physician, Montefiore Hospital for Chronic Diseases and Nicholas Michelson, M. D., Adjunct Physician, Montefiore Hospital for Chronic Diseases.

This book discusses the ever increasing problem of the care of the chronically ill. The authors show that while facilities for the care of patients suffering from acute illness are improving each year, no *adequate* provision has been made for the chronic patients either by institutions or by organizations giving home care; this excepts, of course, the very few hospitals for chronic diseases.

The apparent economic and social neglect of the chronically ill, as outlined in this work, offers a distinct challenge to the physician, public health worker, and layman interested in communal problems to formulate ways and means of ameliorating the present condition. The MacMillan Company, Publishers, New York.

NEWS ITEMS

Dr. Silas H. Starr announces the removal of his office to 719 Heyburn Building, Louisville. Hours 10-12 and by appointment. Telephone: City 3120.

WOMAN'S AUXILIARY NOTES

FIRST

Have you sent in your 1930 subscription to Hygeia?

Second

Are you reviewing the Study Course on the Medical and Health Laws? This is a good time to discuss these subjects at your Auxiliary meetings and with other women's groups.

THIRD

The annual meeting with election of officers is drawing near in most County Auxiliaries. Will the county secretary please be sure to send the state secretary, Mrs. J. W. Sams, Crestwood, Kentucky, the names and addresses of your new county officers immediately after the election.

This will greatly facilitate the work of the State Auxiliary.

Fourth

The Jane Todd Crawford Memorial

Progress is being made on the Jane Todd Crawford Memorial project and interest is increasing throughout the state. The talk on Jane Todd Crawford was made by Mrs. F. C. Dugan and Miss Margaret Flynn over WHAS, the radio phone of the Courier Journal and Louisville Times at Louisville, on December 12. In this talk attention was called to the fact that the following day, December 13, would mark the one hundred and twentieth anniversary of the epochal occasion when Mrs. Crawford submitted to the experiment of ovariotomy at Danville, with Ephraim McDowell as the intrepid surgeon. More and more people are beginning to realize the benefits of this courageous adventure for all womankind. Doubtless, some visible, tangible expression of gratitude to this heroic woman will follow. If every woman, grateful for the benefits of abdominal surgery, either for herself or for some loved one, will give one dollar towards the Jane Todd Crawford Memorial, this contribution to the relief of human suffering and the progress of medicine will be as famous as the warring exploits of Napoleon.

Contributions should be made to the Jane Todd Crawford Memorial Fund and sent to Mrs. W. C. Dugan, Treasurer, Clark, Kentucky.

On December 24th, a brief sketch of the Jane Todd Crawford story was sent by the Central Group of the Memorial to the president of each county auxiliary; also to members of the Memorial Committee requesting the active co-operation of every auxiliary member in presenting this project before the several women's groups of the local county. Eighgt women living near each other compose this Central Group. They are: Mrs. P. E. Blackerby, ex-officio; Mrs. C W. Blake; Mrs. J. L. Jones; Mrs. Oliver P. Miller; Mrs. L. W. Neblett; Mrs. W. A. Ondedonk; Mrs. J. Hunter Peak; Mrs. Leon Solomon; Mrs. A. T. McCormack, chairman, all of Louisville.

This group will appreciate any additional information concerning Jane Todd Crawford and Dr. Ephraim McDowell. All known sources of information have been eagerly seached but, as yet, no picture or likeness of Mrs. Crawford has been found and, doubtless, many interesting episodes of her life are unknown to the majority of her admirers.

FORUM

In the October issue of the Journal was published a paper entitled Intercranial Involvement Complicating Exacerbation of Chronic Middle Ear, by Dr. A. L. Bass. The discussion by Dr. S. S. Watkins, of Louisville, was delayed in transit to our office.

We now take pleasure in correcting the omission which occurred while Dr. Watkins was in Europe.

Discussion by Dr. Watkins

All three of the cases reported by Doctor Bass are very interesting. They illustrate well two points—one is that there may be most serious complications of suppurative otitis media, especially when chronic; the other is the difficulty in the diagnosis of the various complications, because often more than one may be present and their symptoms may give a confused picture.

If meningitis was present in the first case, it was, I believe, what we call circumscribed serous meningitis. This occurs much more often than the purulent form and is much less serious.

Extra-dural abscess is not infrequently found at operation when not expected, because there are as a rule no definite symptoms due to it. The most charateristic is a deep and persistent headache in the region of the area involved. The mastoid operation drains the abscess.

Cavernous sinus thrombosis is a most interesting condition. I had the good fortune to treat a case in Baltimore that got well. This one, with eleven others, were reported by Doctor J. J. Chisolm and me several years ago in the Archives of Surgery. All but two were treated at the Johns Hopkins Hospital. We found that it occurred but once in every 6,000 surgical cases. The mortality is about 93 per cent. Only one of the twelve cases reported by us got well. In this case the thrombosis of the cavernous sinus was secondary to an acute suppurative infection in the ethmoidal and maxillary sinuses. Not only the ears but any infected lesion in the sinuses, nose, throat and upper part of the face may cause cavernous sinus thrombosis. As Dr. Bass said in his case, thrombosis in the cavernous sinus was probably secondary to the same condition in the sigmoid sinus, and the latter was present before the operation. Extension was caused, probably, by dislodgment of a piece of the clot, as a result of the jarring in the use

(Continued on Page 124)

Kentucky Medical Journal
Published Monthly By
THE KENTUCKY MEDICAL JOURNAL
Incorporated

Entered as second class matter October 22 1906, at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price $5.00
Edited Under Supervision of the Council

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COUNTY SOCIETY REPORTS

Jefferson: The Jefferson County Medical Society meets at the City Hospital at 7:45 p. m. the first and third Monday of each month and members of the Kentucky State Medical Association who are visiting in Louisville at these dates, are cordially invited to attend these meetings, and the courtesy of the floor will be extended to them.

The program for Feburary is as follows:

February 3rd

Symposium on Epidemic Cerebrospinal Meningitis. Neurological Manifestations and Clinical Course.—Dr. John J. Moren.

Serum Treatment—Dr. Morris Flexner.

Pathology and Laboratory Findings—Dr. A. J. Miller.

Relationship of Eye, Nose and Throat.—Dr. Frank Pirkey.

Surgical Considerations—Dr. W. James Gardner, Cleveland, Ohio.

February 17th

Case Reports.

Gonorrheal Iritis—Dr. S. G. Dabney.

Septic Throat—Meningitis, Fatal termination —Dr. Arthur O. Goodman.

Essay.

Modern Methods of Treatment in Tuberculosis —Dr. Oscar O. Miller.

General Discussion.

E. F. HORINE, President.
J. C. BELL, Secretary.

Calloway: The Calloway County Medical Society met at the National Hotel, Dr. E. B. Houston, retiring president, presided. Influenza and its complications was the subject discussed by the society. Endocervicitis was discussed by Dr. Walters, of Mayfield. Officers elected for coming year, are president, Dr. C. H. Jones, Lynn Grove; vice president, Dr. E. R. Blalock, New Concord; secretary and treasurer, Dr. B. B. Kris, Murray. The program committee appointed by the president is composed of Dr. W. H. Graves, Dr. E. B. Houston and Dr. J. V. Starkes.

Following the program a dinner was given for the physicians and their wives. Visitors were: Dr. Hunt and Dr. Walters, Mayfield, and Dr. C. E. Purcell and Mrs. Purcell, Paducah.

B. B. KRIS, Secretary.

Harrison: Harrison County Medical Society held the annual meeting at Masonic Hall, December 2, 1929. Members and visitors present: Drs. Rees, Martin, Wells, Brumback, N. W. Moore, McIlvain, Wyles, McDowell, Midden, Fail, Wood, Todd, R. Hays Davis and Quiglie, of Louisville; McClure, Vance, Scott and Harvey, of Lexington; Caldwell, of Newport.

Meeting called to order by President Dr. Wood. Election of officers for 1930 resulted as follows: president, Dr. Joseph Martin; vice-president, Dr. K. W. Brumback; secretary-treasurer, W. B. Moore. Delegate to State Meeting, W. B. Moore, Alternate, Dr. J. P. Wyles. Censor to 1932, Dr. E. S. McIlvain.

Interesting cases report by Dr. Caldwell, Dr. Vance, Dr. Davis, Dr. Quiglie and Dr. Harvey.

Dr. Hays Davis read paper on Myocarditis, which was discussed by Drs. Scott and Harvey. Dr. McClure spoke on Legislation as it Applies to Medicine. Special stress was made on Sheppard-Towner bill.

Meeting adjourned to dinner prepared by Eastern Star.

J. P. WYLES, Secretary, Pro tem

Franklin: The Franklin County Medical Society met in regular monthly session on November 7, 1929 at 12 o'clock noon, in the Writing Room of the Capital Hotel.

Members present were: Drs. Budd, Ginn, Coblin, Roemele, Heilman, Darnel, Youmans, Travis, Jackson, Demaree, Coleman and Minish. Dr. G. H. Heilman, vice-president, presided.

Minutes of the previous meeting were dispensed with by a vote of the Society.

A committee appointed consisting of Drs. Coblin, Roemele and Minish at a previous meeting to prepare suitable resolutions on the death of Dr. C. K. Wallace, made their report, handing to the Society a set of resolutions which were unanimously adopted.

Dr. Budd made a motion which was duly seconded and carried, that a committee of three, of which Dr. Patterson shall be one of its members, be appointed to revise the schedule of fees, both surgical and medical, to be charged by our members. Dr. Heilman appointed on this committee with Dr. Patterson, Drs. Budd and Travis.

The scientific program was in the hands of Dr. Travis, who presented the Society with a most interesting paper giving his personal experience in the treatment of pneumonia, this being a timely subject, was discussed freely by most everyone present. Dr. Travis closing the discussion.

Resolutions of the Franklin County Medical Society on the Death of Dr. C. K. Wallace

Dr. Christopher K. Wallace, whose death occurred on August 23, 1929, after a short illness of three weeks, was the oldest member of the Franklin County Medical Society. Several years ago by unanimous consent of its members, he was made an honorary member, he then being the Dean of the Profession in this County.

Dr. Wallace was a physician of rare ability. Up to the time he was stricken in his last illness, he had practiced medicine continuously for fifty-five (55) years, most of the time in Frankfort and Franklin County. For three (3) years after graduating he was located in Lexington. He served one and half (1½) years as intern in the Post Graduate School of Medicine Hospital in Chicago, and six (6) months as Superintendent of the Feeble Minded Institute here in Frankfort.

Resolved: That in his passing on, this Society has lost another valuable member and that we extend to his wife and family, our condolence and sincere sympathy in this hour of bereavement, that a copy of these resolutions be sent to the family, also to the Kentucky Medical Journal and a copy be spread upon the minute book of this Society.

E. C. Roemele
R. M. Coblin,
T. T. Minish.

The Society then adjourned to the Hotel Dining room for lunch.

L. T. MINISH, Secretary.

FORUM

(Continued from Page 122)

of the chisel. The sigmoid sinus is connected with the cavernous sinus by two other small sinuses, the superior and inferior petrosal sinuses. In my case, to which I have just referred, the infection extended into the cavernous sinus. The most characteristic lesion in this condition is oedema and fixation of the eyes, first of one and then the other. The extension to the other eye occurs usually within a few hours, but nearly always in less than twenty-four. The oedema may be so marked that both eyes are closed and it may extend to the forehead and temporal regions. The rapid involvement of the second eye distinguishes this condition from orbital abscess and is pathognomonic of cavernous sinus thrombosis.

I will briefly refer to my case which was a most interesting one. There was a general septicaemia, due to the staphyloccus aureus. There were a number of pyaemic foci, namely pneumonia, pleurisy, arthritis of one knee-joint and multiple abscesses in the outer table of the skull. The temperature was septic in type, ranging from subnormal to over 105 degrees and there were several chills and sweats. At one time the oedema was so extensive that both eyes were closed and it extended from each temporal region over the upper part of the face and forehead and down the neck. The features of the patient were so distorted that he did not look like a human being. When his condition was at its worst the parents were called to the hospital late one night. I told them that he could not possibly live until morning and, got permission for an autopsy. The next day he began to improve and slowly recovered. Of course, I did not cure this case and did little for him, except to keep the infected sinuses well drained. He was fortunate in that the infection was not caused by a more virulent type of micro-organism.

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Being the Journal of the Kentucky State Medical Association
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Editorial and Business Office, Corner State and Twelfth Streets. Subscription Price, $5.00 Single Copy, 50 cents
Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 8, 1917, authorized May 25, 1920.

Vol. XXVIII. Bowling Green, Ky., March, 1930 No. 3

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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. XXVIII. BOWLING GREEN, KY., MARCH, 1930 No. 3

EDITORIAL

PSITTACOSIS OR "PARROT" DISEASE

Psittacosis or "parrot" disease is the name given an infectious disease of parrots that may be transmitted to man. The causative agent is the Bacillus psittacosis, an organism related to the paratyphoid group.

Although parrot disease was recognized in man fifty years ago, the reports of its occurrence have been comparatively few. In 1892, there was quite an outbreak in Paris and from time to time since then cases have been reported in medical literature. In 1904 several cases were reported in New Hampshire and in 1917 outbreaks developed in Pennsylvania and New York, both of which were due to parrots consigned to department stores.

The recent appearance of parrot disease in the United States has caused many persons to make inquiries at the office of the State Board of Health. The occurrence of this disease in the United States is simply a reminder that diseases of domestic animals may cause disease among human beings. As yet no cases of this disease have been reported in Kentucky, and there is no danger of having parrot disease spread to the state unless infected parrots are brought here.

Although psittacosis is a disease common to parrots, it is easily spread from parrots to man. The germs causing this infection are present in the excreta of the parrot. The feathers, becoming contaminated with fecal matter, are cleaned by the parrot with its tongue in the usual way, so that its mouth and bill also become infected, and thus in feeding, petting and caressing the bird, infectious material gets on the hands and face and thence into the mouth, and thus gives rise to human infection.

According to Chalmers and Castellani in their work on tropical medicine, the symptomatology noted in human beings with parrot disease is as follows: The incubation period varies from seven to twelve days, after which the disease may begin suddenly with a chill, but more usually commences insidiously, like typhoid fever, with headache, malaise, etc. and a rise of temperature from 102° to 104° F., with a pulse rate of 100 to 120 per minute, quickened respirations, cough, and mucopurulent expectoration. Rales may be heard over the lungs, while the spleen is enlarged, the tongue dry and furred, and diarrhea or constipation may be present. Rose colored spots appear on the skin, and the patient becomes dull and stupid, in which condition he may remain for several days, and as a rule will recover in about 15 or 20 days if no pneumonic complication intervenes. If, however, pneumonia sets in, the patient becomes much worse as a rule dies.

The disease in parrots is characterized by drooping, ruffling of the feathers, loss of appetite, more or less diarrhea, and a high mortality.

Persons who own parrots are naturally wondering just what they had better do about the bird. The answer is 'nothing' unless the parrot has been acquired recently or perhaps has been associated with a recently purchased parrot that has been sick. New birds should be kept in their cages and not exposed to cold and should always be kept in a good hygienic condition. There is considerable evidence that exposure and uncleanliness are predisposing factors to this disease. They should be watched carefully for signs of illness. The hands should be washed thoroughly after handling its cage. Mouth to mouth feeding should not be practiced under any circumstances; it is a foolhardy practice.

If an old bird becomes sick, unless recently exposed to a new one, he probably has something not infectious to human beings and can be treated at home with reasonable safety. If a new bird becomes sick he is dangerous. By exercising great care you may be able to nurse him back to good health without becoming infected. No one knows what the chances are but the risk seem hardly warranted.

A NEW DAY

Amidst the sensational things naturally filling the columns of the papers from day to day about the doings of the Legislature at Frankfort it is reassuring to note one change that means the birth of a new day in the management of Kentucky's affairs.

Heretofore the annual budget bill has been written hurriedly by the Governor or by others acting for him, introduced during the closing days of the Legislative session and crowded through without the opportunity for the mature consideration which its importance deserves.

This year the Budget Commission and the

State Budget Officer made its report to the General Assembly in the early part of the session. Lieutenant-Governor Breathitt and Speaker Milliken had organized their appropriation committees as early as possible with the chairmanship of Senator Gaines and Mr. Adcock. The executive officer of each State department or agency was called before the full committee and given an opportunity to explain the activities of his department and discuss its value and cost to the people of the State. This is the first time such constructive study has been made of State appropriations in the past fifty years. These fifty years of hodge-podge financial legislation have resulted in an indefensible financial structure for the State.

We wish every citizen of Kentucky could have been present at the hearings because they would have appreciated the sincerity and thoroughness with which these committees set about their tasks. We do not know the contents of the appropriation bill as this editorial is written, but we confidently predict that it will be far and away the most constructive budget legislation that has ever been passed in Kentucky. If future session of the General Assembly build upon the sound foundation which is being constructed in this one a new day will develop in the management of Kentucky's affairs.

MATERNAL MORTALITY

The Kentucky State Medical Association has joined with the Medical Societies in fifteen other states in a study of the causes of maternal mortality of the United States. Doctor Mendenhall, whose work in Kentucky was received so favorably by the profession, has summarized the results of this investigation in an article in the October Medical Journal and Record and some of her statements are particularly noteworthy.

"Of the eight main divisions of puerperal deaths, puerperal sepsis is the most common, accounting for about 40% of all such deaths in the United States. 1256 maternal deaths were personally investigated, the attending physician being interviewed; 480 of these were caused by puerperal septicemia. Abortions preceded 42% of these deaths from septicemia and in more than half of these cases the abortion was self-induced. Abortions were the causative factor in 299 of the deaths."

We desire to call this to the especial attention of the Auxiliary with the hope that they will report it to the woman's clubs and other organizations that women may be put on notice as to the danger of death following induced abortion. It is also to be noted that 40% of the deaths were preceded by some obstetrical operation. Proper pre-natal care and study would have obviated the necessity for many of thse operations.

From time to time Doctor Mendenhall will make further contributions of the results of this study and the profession in Kentucky which has contributed so much to its success, will, we feel sure, profit from its lesson.

AN INVITATION

The Tennessee State Medical Association will celebrate its one-hundreth anniversary at the meeting to be held in Nashville on Wednesday and Thursday, April 9th and 10th

Through its Secretary, Dr. H. H. Shoulders, Nashville, an invitation is extended to every physician in Kentucky to attend this meeting and take part in the program. It is especially urged that those Kentucky doctors who graduated from one of the Nashville or Tennessee schools make this occasion a home-coming event.

Let every Kentucky doctor who can attend this meeting and enjoy the hospitality of our Tennessee brethren.

MENINGO COCCUS MENINGITIS

Meningo coccus meningitis is occuring in an unusal frequency in various widely separated sections of the state consequently this disease should be suspected in those cases of sudden violent illness with initial high fever and it is during this stage that the laboratory can be of inestimable value. An ordinary blood smear, stained by Wright's stain, will often show numerous coffee bean diplocicci and if found, an immediate intravenous injection of meningo coccus serum will obviate any further medication.

THE SOUTHERN MEDICAL

The Kentucky physician will have the honor to the hosts to the Southern Medical Association in Louisville for their 1930 meeting in November. The Kentucky State Medical Association will meet early in September so as to give the physicians ample time between these dates to resume their practice and ready for another fall vacation.

The definite dates for both meetings will be announced in the April Journal.

SCIENTIFIC EDITORIAL

CARCINOMA OF BREAST

When authorities unite in an opinion upon a vital subject, faith is kindled in their judgment and the public is wise in following the dictates of their opinion.

The cause and cure of cancer of the breast is as yet unknown, but we have acquired a knowledge of certain important points which are aids in the proper handling of the problem at present, and may be a means towards a solution.

We know that the grade of malignancy plays a large part in the prognosis of the case. We know, from compiled statistics from the large clinics, that 65 to 75% of patients with carcinoma of the breast have an expectancy of five or more years of life after operation, if there is at that time no axillary metastasis, while less than 15% of such patients have five or more years of life, at the time of operation, if axillary metasasis is present—an outlook improved only about 5% by post-operative x-ray. In other words, if the operation is performed early enough, before axillary metastasis develops, the expectancy of years of life after the operation is greatly increased. The interval of time from the onset of the disease until it is treated is of crucial importance, and it is the patient's part to make this interval as short as possible.

The chances of curing carcinoma of the breast rest, at the present, upon early diagnosis and the wide removal of the growth. The profession has taken the attitude that all "lumps" in the breasts are considered carcinomatous until proven benign, and should be excised as soon as the "lump" is found. This will naturally remove a number of growths not considered malignant, and if microscopic examination confirms the clinical diagnosis, and the growth is shown benign, we can then be assured that carcinomatous changes in the "lump" have been prevented.

With this principle of immediate removal of all growths carefully observed, one half of the way is covered to markedly improve the end results in the treatment of carcinoma of the breasts—the other half is the cooperation of the laity.

If women would conquer the horror and fear of the disease which have been built through ignorance, and immediately report all breasts "lumps" and would exert all possible persuasion in educating others to the importance of so doing, radical breast operations might be avoided, advanced carcinoma prevented from occurring, incalculable suffering might be spared and thousands of lives saved.

We as physicians are ready to co-operate; of the public we ask, "What will you do?"

W. O. JOHNSON.

ORIGINAL ARTICLES

IODINE IN HYPERTHYROIDISM*

By Robert P. Ball, Louisville.

The medical literature in recent years has reflected the wide-spread use of iodine in the treatment of diseases of the thyroid gland. A careful perusal of the statements made regarding iodine therapy reveals only partial agreement, and in some instances direct contradiction, regarding the proper use of the drug. These differences of opinion are held by men of equal rating as regards their opportunity and sincere effort to clarify the complex bodily derangement which we term hyperthyroidism. This brief paper will not permit a discussion of the etiology, classification and treatment of this disease. Our remarks will be confined to the use of iodine in hyperthyroidism.

If we administer a drug and expect therapeutic value therefrom we should first be concerned about its pharmacologic action. The pharmacologists are unanimous in their scanty descriptions and knowledge of the fate of iodine in the body. They classify iodine as a metabolic poison acting as an irritant. When given in large doses it will produce a group of symptoms referred to as iodism, or iodine poisoning. Bastedo (1), describes chronic iodism as a state in which there are anemia, emaciation, tachycardia and loss of sexual power. He says that much iodine lowers the body tone and depresses the spirits. Other symptoms of iodine poisoning such as a skin rash, lacrymation, sneezing, salivation, diarrhea, and a sense of constriction about the neck are interpreted as being due to the irritation produced when eliminated through the various channels of the body. All the iodine compounds are said by Meyer and Gottlieb (2), to act alike. They quote Coindet as stating in 1820, "iodine acts generally on the body only indirectly through the thyroid." Following this line of thought it was only natural to associate thyroid disorders with iodine metabolism. This idea was further substantiated by the then prevalent treatment of goiter with the burnt ashes of sea-weed, the active principle being iodine. Coindet believed iodine therapy in goiter rested upon a firm physiological basis.

It is more than one hundred years since iodine was used on a supposedly physiological basis, but at the present time there is general agreement regarding its use only as a prophylactic. For all other purposes in hyperthyroidism there is a difference of opinion.

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*Read before the Kentucky State Medical Society, Louisville, October 21-24, 1929.

Kocher first objected to the use of iodine because he believed his goiter patients who showed a mild hyperthyroidism were aggravated by the drug. He influenced medical thought to a large extent regarding iodine therapy, and it fell into disuse. Its revival was brought about through the Michigan sheep experiments, and subsequent work of Marine and Lenhart (3). It was necessary for Marine and Kimball (4) to prove the efficacy of iodine prophylaxis in the prevention of goiter among school children residing in the endemic goiter belt of the Great Lakes before the universal use of iodine was again established. Following their often quoted experiment upon Akron school children, there appeared upon the market iodized salt with voluminous propaganda regarding its virtues. It was only in a few scattered medical publications that there was found any warning against the promiscuous use of iodine.

In 1922 Plummer (5) began the use of iodine as a pre-operative routine in exophthalmic goiter. The marked benefit derived from this new procedure in the operative treatment of hyperthyroidism can be appreciated only when we compare the mortality rate of 3 to 6% before its use with .5% after its use. In addition to lowering the mortality rate 4%, there were fewer multiple stage operations necessary with less hospitalization. Sistrunk (6) has recently stated it was not necessary to do a single ligation at the Mayo Clinic in 1928 up to December 11th, which was the date of his statement. The use of iodine as a preoperative routine became universally used in exophthalmic goiter.

Iodine therapy was not to be so easily settled with regards to hyperthyroidism in tumorous or adenomatous thyroids. In the universal acclaim of iodine there were many who used it on tumorous thyroids. Also it was used by some internists and general practitioners, not as a preoperative treatment, but rather as palliative therapy. It is these two fairly common uses of iodine therapy which have not brought forth sufficient discussion for general agreement.

At the University of Pennsylvania (7), University of Michigan, Western Reserve University (8), and the Cleveland Clinic there is no distinction made between the tumorous and non-tumorous glands as regards pre-operative iodine therapy. At the University of California and the Mayo Clinic there is a distinction made with an effort to give iodine only to the non-tumorous thyroid cases. Furthermore, Boothby and Plummer (9) believe iodine is contra-indicated in the tumorous thyroids. If one procedure has an advantage over the other it behooves us to determine so. The argument against iodine in the tumorous thyroid is principally based upon Plummer's concept of hyperthyroidism. He believes the toxic manifestations of exopthalmic goiter are due to an incompletely iodized thyroxin molecule, while the toxic manifestations of the tumorous thyroids (toxic adenomata) are due to an excess of completely iodized thyroxin presumably supplied by the tumor or adenoma. If his concept is correct would there be any need for iodine? This question should be answered from the clinical result. At the Mayo Clinic and the University of California they find a decided improvement in 25% of the cases given iodine, and explain it by pointing out there was diffuse hyperplasia of the gland in addition to the tumors present (5). In more than 50% of the cases there is a slight improvement after administering iodine and only in the isolated exception is there found a definite injury following its use. At the other clinics, where they give iodine to all cases they find no difference in the response to iodine therapy (8). Since it is purely problematical from the clinical examination as to how much hyperplasia the gland proper will show, and since it is the isolated case which reacts against iodine therapy, it seems a safe procedure to give iodine to all preoperative cases regardless of the presence or absence of tumors. This is safe even for the rare cases that react unfavorably to iodine because on a preoperative routine the patient is usually hospitalized and under the closest observation of the surgeon.

As regards iodine administered for palliative treatment only, we have a comparatively few openly in defense of this form of therapy. They are limited to the group of medical men who claim to cure hyperthyroidism by medical means only (10). A far greater number than in either group are the general practitioners throughout the country who practically routinely administer iodine to all goiter cases coming under their observation. Can we say these people commit an error? If this procedure is condemned, upon what grounds is it to be done? First we must view the situation from the side of the general practitioner, and later from that of the surgeon who ultimately receives the patient.

When the doctor first sees the patient he usually finds a mild hyperthyroidism in a person engaged in his normal activities. His first impulse, and ultimate goal of any form of therapy, is to relieve the patient of undesirable symptoms. From experience he knows that iodine will temporarily produce the desired result. If he has treated many cases he will remember the occasional spontaneous remission which lasted for years or for the life-time of the patient. It is a question in his mind as to how much the iodine influenced the remisssion. The patient is examined for a focus of infection and maybe some teeth are extracted or the tonsils removed. By this time the patient is very restless and is begging for relief. The doctor then suggests that a surgeon be called in consultation. The patient refuses to see the surgeon and will not consider an operation without "medical treatment being tried first." This is what we shall refer to as the critical moment, and is frequently the time when iodine is administered. What alternative has the perplexed doctor at this stage which will keep him in the good graces of the patient? He can agree to medical treatment and place the patient at absolute rest, supplemented by sedatives such as the barbituric acid derivatives. If this patient does not need an operative procedure this treatment will suffice. But suppose the patient does not become symptom free. In that case the patient will eventually need an operation. Iodine therapy will in all probability free the patient of so many symptoms that he will refuse operation and suffer subsequent exacerbations. It is these temporary remissions which produce the long standing disease with the resultant cardiac weakness. It adds to the risk at operation which was inevitable from the beginning. The patient has been kept in a semi-invalid state for months or years because of the temporary benefits of iodine.

When the patient is transferred temporarily to the surgeon for operation he has an invaluable drug to carry him or her through the operation with a minimum rish only when the patient has not been given iodine to the saturation point. On that basis we would recommend that no patient suffering with hyperthyroidism be given iodine as a palliative measure unless it is understood to be a part of the preoperative routine.

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DISCUSSION

Virgil E. Simpson, Louisville: Mr. President and Gentlemen: One must view the subject under discussion from two angles. In the first place, we must clearly visualize from a clinical standpoint what we mean by hyperthyroidism, or what we mean by a broader term, thyrotoxicosis.

There are two things that will produce a toxic thyroid, toxic in the sense of manifestations which are harmful to the patient, either temporarily or permanently. One is a thyroid that has developed a tumor of the adenomatous type. These tumors may reside in a thyroid indefinitely; they may last through the normal period of one's existence without ever producing any symptoms, whatsoever. In other words, I mean to convey the idea that merely because a tumor is present in the thyroid is no argument that it necessarily is or will become toxic. But a majority of them, perhaps, or at least a respectable per cent of adenomatous conditions do become toxic. That is a pure hyperthyroidism. Its clinical course, all the manifestations of the condition can be reproduced by the simple administration of thyroid substance.

The other condition which produces a thyrotoxicosis, wholly different from toxic adenomas, is exophthalmic goiter. In this condition, we are not dealing with a simple increase in the normal secretion of a gland, but as we believe now is due to a perverted or a diseased type of secretion, and which produces the symptoms known as thyrotoxicosis in exophthalmic goiter.

In dealing with the prophylactic end of goitrous conditions, I think there is unanimity of opinion that the type which is spoken of as adolescent goiter and which means simply inability of the gland to produce enough thyroid secretion to meet the requirements of the body, particularly at puberty or during pregnancy, will be relieved or prevented by the use of iodine.

Considering the two conditions to which I have just referred, thyrotoxicosis, the one due to increase in the normal secretion of the gland—the hyperthyroidism—and the other due to the perverted, distorted or diseased type of secretion—exophthalmic goiter—what is the accepted management?

Let's view the action of iodine a moment. When iodine is administered to the individual and the gland studied in the laboratory a few things are found to be the result. First, there is mitosis. This usually begins within a week from the time administration is begun, and it increases during the second, third and fourth weeks of administration.

Second, there is an increase in the colloid of the gland which is slowly established; I mean slowly from the standpoint of days. It reaches its maximum in two to three weeks, and from that time on the continued administration of the drug results in a more watery condition of the colloid. In consequence the third thing which results is a pressure in the gland due to the increase in the size of the compartments that hold the colloid, with consequent pressure on the epithelial cells so that they then become what we call, from the microscopic standpoint, flat epithelial in contradistinction to the cuboidal cells which are found in the acute toxic condition.

With the clinical classification of thyrotoxicosis and what we know of the action of the drug on the gland, the indication for the use of iodine seems to be perfectly clear.

In toxic adenomas, iodine is not indicated because there is already too much iodine. In exophthalmic goiter, it has been proved over and over clinically that it does relieve the condition. The profession must have in mind clearly that in either instance, whether you give iodine for a few days prior to an operation in adenomatous thyroid and it is to be continued for a few weeks after the removal of a portion of the gland, or whether you give iodine to the exophthalmic goitrous patient with the idea of getting him ready for the operation, it is not a treatment for anything except for surgical procedure. In neither instance is the continued administration of iodine helpful from the standpoint of relief of the condition.

It must also be remembered that many of these glands, both the adenomatous type and the exophthalmic group, will undergo degenerative changes, and a patient may show up months or years later with a hypothyroidism. Bear in mind that it is also possible for an individual to have hyperplasia of the thyroid, exophthalmic symptoms remaining and at the same time have evidences of myxedema. It is a difficult thing, from the clinical standpoint, sometimes to determine which is which.

Also, one must bear this in mind, that it is not at all impossible to have both a toxic adenomatous thyroid and exophthalmic goiter existing in the same individual. Those are the most difficult cases to classify and are the most difficult to handle.

If I were asked, in a few short sentences, to lay down a rule with regard to iodine administration, I would say that where we know we are dealing with adolescent goiter iodine is a remedy par excellence. If we are dealing with a toxic adenoma iodine should not be given except perhaps a few days previous to determined operation, but should be continued for a period after the gland has been removed to prevent hyperplasia of that part of the thyroid left.

Third, that iodine is indicated in exophthalmic goiter for it does more good than anything one can do to get the patient ready for the operation, but the operation must inevitably follow and at the time of the peak of improvement. (Applause).

J. R. Wathen, Louisville: I have listened with a good deal of pleasure to Dr. Ball's excellent paper.

Dr. Simpson so thoroughly covered the field in his characteristic and plain manner that there is very little room for anything further to be said on the subject.

I want to speak only on one point, and that is the class of cases I so often see. The class of cases often brought to me are brought in on a stretcher. They are vomiting. They have lost weight rapidly. They are dehydrated and it is impossible to make a metabolism test. Those are the cases that are very serious cases, and those are the cases that will not take iodine in any form in the stomach.

How are you going to treat them? It is the simplest thing in the world if you know how. We put that patient to bed, and the first thing we do we put a catheter into the rectum. We use proctoclysis apparatus, the Murphy drip, a a pint and a half, and we put into that something to control the vomiting and nerves. There is only one drug known, and that is veronal, which acts on the vomiting center of the brain. As a rule, I give those patients fifteen grains of elixir of veronal in a pint of water with a catheter in the rectum. The patient, not having slept for two or three days, will go into a sound sleep. After that has been passed in about an hour and a half we pass in the iodine. I don't give ten or fifteen drops. I give them 100 to 150 drops of Lugol's solution of iodine and give it through the rectum. It is beautifully tolerated.

Just look how much iodine I am giving, 150 drops once a day. That is five or ten times as much as you could get into a woman vomiting. It is little short of marvelous. In about two or three days that patient quiets down. In forty-eight hours they will want a good, hearty breakfast, the first one in four days, and they will eat and digest it and not vomit. Of course, I repeat the same thing at the end of each day. At the end of a week we can not only make the metabolism test, but very often in ten days you can operate on the patient with safety. (Applause).

J. F. Van Meter, Lexington: I enjoyed Dr.

Ball's very practical and intelligent discussion of this very important subject.

I am sure one cannot take histories of goiter patients in such a place as the Cleveland Clinic where they are seen in enormous numbers without being impressed with the various ways in which iodine is given to patients often, we think, with definite lack of intelligence.

It has been very definitely shown and discussed certainly by Dr. Ball's paper that iodine should be given only in preparing a patient for operation. The use of iodine in the case of exophthalmic goiter is well defined and well known. The question arises as to whether it should be given in the toxic adenomatous case.

My observation has been that the patient presenting increased metabolism with toxic symptoms profits by the use of iodine. Statistics bear this out to a large degree. It is impossible to tell by palpating a gland what degree of hyperplasia exists therein. It is not impossible to tell by a combination of clinical symptoms, such as the pulse, the nerve symptoms and the metabolic rate what degree of toxicity exists. The majority of these cases, I believe, will definitely profit by administration of iodine preoperatively in direct proportion to the degree of toxicity that exists.

Certainly, we know that cases of simple adenomatous thyroids without any hyperthyroidism do not need iodine. Case after case can be cited where hyperthyroidism is induced by administration of iodine to these cases.

I am reminded of Trousseau's account of which he wrote many years ago, back in 1855. A young woman with exophthalmic goiter came to his office in Paris. He placed that patient in the hospital, and intending to write twenty minims of tincture of digitalis three times a day, he inadvertently wrote twenty minims of potassium iodid three times a day. The patient received the medication and, much to his surprise, he found the pulse dropped from 140 to 109. He changed the order to digitalis and the pulse rose to a very high point.

Up to that time the question of iodine had not been widely accepted. Whether or not we subscribe to the varying causes of exophthalmic goiter as compared to toxic adenoma is a personal matter. Certainly the theory of abnormal secretion combined with the secretion of abnormal substance is widely open to debate and is not widely accepted by various authorities. Let me say that I think we see border line cases where one cannot say definitely whether it is a toxic adenoma or border line exophthalmic. For that reason again it would be difficult to say whether you will administer iodine to one case and not to the other, or whether iodine should be given all such cases. I feel that iodine given pre-operatively is of definite value in treating both the toxic adenoma or exophthalmic. (Applause).

W. O. Johnson, Louisville: I do not know of any better way of expressing an ideal use of iodine in cases of hyperthyroidism than has just been presented by Dr. Ball.

Nothing needs to be added to what Dr. V. Simpson has said. I thoroughly agree with Dr. Simpson in saying that the toxic adenoma is pure hyperthyroidism and the other is disfunction.

There are a few points I think worth while mentioning at this time.

The action of iodine as put out by the pharmacologist and physiologist is one thing, and the response in a sick patient is another. The symptoms of the disease also vary a great deal.

The goitre problem in one location is not always comparable to another. For instance, in Switzerland the problem is primarily for the relief of pressure and prevention of carcinoma. These people are much more susceptible to iodine than in this country. The production of iodine Basedows' is much more frequent than in America.

In the use of iodine in preparation of cases of adenomata with hyperthyroidism there is one thing we must always bear in mind. In the adenoma we frequently find hyperplasia of the gland in addition to the adenoma and iodine helps this hyperthyroidism as well as toxins from the adenoma. But the most important thing in the adenomatous goitre patient which is most frequently overlooked is the condition of the heart.

So these patients should be prepared primarily from the viewpoint of the condition of the heart and its reserve, it makes no difference whether the patient is prepared in 10-15 days. This preparation should be dependant upon the response the heart shows in building up a reserve, rather than the improvement in the metabolic rate and toxic symptoms of the individual. For in this group of cases the mortality is from cardiac failure and not toxicity.

R. R. Elmore, Louisville: I have no desire to go over the ground which has been covered. However, there are in these cases some border line cases in which the indications for an operation are not very clear, as brought out very distinctly in my mind in attending Dr. Percy's Clinic in the Augustana Hospital. He said some of the cases that kept him awake at night were those in which they were undecided as to whether to do a hyperthyroidectomy. Those cases were often undernourished, presented a rapid metabolic rate, tachycardia and loss of weight. He said he made it a rule, when he was uncertain whether to operate, not to do the operation.

Dr. Crile, attached to his clinic, said: "Doctor, suppose you were a young surgeon starting out and you hadn't very much work to do. The patient needs an operation, wants an operation, and you go ahead and do it."

Dr. Percy said, "That may be all right. You may not have very much work to do the first few years, but if you do a number of those operations you will have less to do after."

Those are the type of cases in which iodine can be used with some satisfaction. They are border line cases. There are a small percentage of cases where you do a thyroidectomy and they have either a recurrent or persistent hyperthyroidism. Those cases can be benefited by the cautious administration of iodine. Some of these thyroidectomy cases develop a crisis post-operatively and for some weeks after they should be given iodine, probably a few months afterwards, not only to prevent a hyperplasia but as an antitoxin.

So, broadly speaking, the use of iodine in hyperthyroidism falls under four heads: first, in preparing the patient for operation; second, in pre-operative and post-operative crises which develop; third, as a prevention of hyperplasia after thyroidectomy, which should be continued for two to three months; and, fourth, in these cases that do not respond to thyroidectomy. (Applause).

R. P. Ball, Louisville, (in closing): I am very grateful for the discussion, particularly so of Drs. Simpson and Wathen because to paraphrase Rudyard Kipling, I first learned about goiter from them.

This is such a large subject that in the discussion we have to limit ourselves to one particular phase. Dr. Simpson has brought out very vividly the subject matter under discussion. I am very glad Dr. Elmore mentioned the border line case because, of course, that is the great problem.

In the use of iodine that I had reference to, it is the case that is a well defined hyperthyroidism. I should like to call your attention to one phase of the paper where these are treated palliatively, not with iodine but by rest and sedatives, and of course other measures that would naturally follow such as removal of foci of infection. (Applause).

Causes of Increased Incidence of Thrombosis and Embolism in Germany from 1924 to 1927.— As an illustration of the marked increase in the incidence of thrombosis and embolism in Germany during the past few years, Kuhn reports that from 1921 to 1927 at the Institute of Pathology at Freiburg the percentage of thrombosis increased from 11.3 to 24.5 and the percentage of fatal embolism from 1.3 to 4.9. In 1927 thrombosis was found in every fourth body examined and fatal embolism in every twentieth body. He believes that this increase in the incidence of thrombosis and embolism is due to the increased use of intravenous injections and to the intensive, life-prolonging treatment of patients with chronic heart disease.

RESUME OF FIVE YEARS WORK IN THE CITY HOSPITAL IN THE DEPARTMENT OF GYNECOLOGY, UNIVERSITY OF LOUISVILLE*

By W. O. Johnson, M. D., F. A. C. S.

Progress is most significant in relation to past achievements, we may best measure our progress by reviewing our accomplishments.

Let us review five years of work in the department of Gynecology in the City Hospital from September 1st, 1924 to September 1st, 1929, inclusive. During this period of time 3627 patients have been admitted to the wards on the gynecological service, with an average yearly admission of 725 patients. Of this number, 1620 patients were operated upon with an average of 2.3 operative procedures per patient, and in the operated cases an average mortality of 2.7%. In the group of cases for diagnosis, the inoperable carcinoma of cervix and uterus, cases of septicaemia following abortions and pelvic infections, debilitated states etc., that is, in the non-operative group, the mortality was 1.1%.

We cannot, at this time,take up an analysis of plastic reparis, pelvic punctures, bartholian abscesses, diagnostic curretage, transfusions, and minor operative procedures.

For brevity let us limit our analysis to five major groups, that is, (1) 459 cases of salpingitis and tube ovarian abscesses, (2) 235 cases of uterine fibroids, (3) 36 cases of ovarian cysts, (4) 49 cases of carcinoma of cervix and uterus, (5) 586 cases of abortions.

During the past two years there has been established a follow-up clinic for observation of the post-operative patients. Examinations are made at the end of one, three, six and twelve months periods after the operation; in this way an accurate check can be made on the operated cases, and the end results determined.

In the follow-up clinics 72.9% of the cases made at least one visit. Twenty-seven per cent of the cases did not return, and as no public record of a death in this group could be found, the non-return was interpreted to mean that these patients were symptom free, or had, perhaps, moved from the city. Four and six-tenths per cent of the cases were discharged as cured after the first visit, 50.2% of remainder made an average of three visits.

In presenting the five selected groups the classification in each group was made on the major reason for the operation. The following is an analysis of all the available cases that came under these distinct headings.

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*Read before the Kentucky State Medical Society, Louisville, October 21-24, 1929.

The percentages given below are based on the total number of each group.

(Chart No.1)

SALPINGITIS AND TUBE OVARIAN ABSCESS

459 Cases 8 Deaths (7 colored) 1.7% Mortality
Races about equally divided Average age 22 years Average hospital days 18
Average duration of symptoms 2 yrs. 3 mos. Initial symptom low abdominal pain 95.4%

215 Cases or 40.0% had children
156 Cases or 31.9% had abortions
46 Cases or 21.0% averaged 2 pregnancies
30 Cases or 19.0% averaged 2 abortions

438 Cases or 95.4% had lower abdominal pains
241 Cases or 52.5% had urinary disturbances
214 Cases or 46.5% had nausea and vomiting
122 Cases or 26.4% had dysmenorrhea
83 Cases or 18.0% had chills and fever

459 Cases or 100% had leucorrhea
139 Cases or 30.2% had excessive or prolonged menses
66 Cases or 14.0% had irregular menses
52 Cases or 11.2% had clots in menstrual flow
17 Cases or 3.6% had metrorrhagia

459 Cases or 100% had salpingectomy
303 Cases or 66.0% had appendectomy
302 Cases or 65.7% had unilateral oophorectomy
181 Cases or 39.3% had drainage
140 Cases or 30.5% had suspension of uterus
95 Cases or 20.6% had supervaginal hysterectomy
59 Cases or 12.8% had plastic perineum

8 Deaths 1.7% mortality (3 pneumonia—3 peritonitis—1 cardiac failure—1 emboli)
434 Cases discharged improved 94.7%
17 Cases discharged unimproved 3.6%

76 Cases or 16.0% vaginal discharge not improved
64 Cases or 13.9% had infection of abdominal wound
31 Cases or 6.7% had presistant abdominal pain
15 Cases or 3.2% had broncho pneumonia (x-ray)
12 Cases or 2.6% had lax abdominal walls, with 39.3% drained

In the series of salpingitis and tube ovarian abscesses, there were 459 primary operations upon the tubes with a mortality of 1.5%, with 60 cases of tube ovarian abscesses in the group, and among these 6% had had previous abdominal operations. The cases were about equally divided between white and colored; the age averaged 22 years, and the stay in hospital, 18 days.

In these cases the average duration of symptoms were two years and three months, with an average of two flare-ups before the operation was advised. In 100% of this series there was leucorrhoeal discharge and in 95.4% the symptom first noticed was pain in the lower portion of the abdomen. In 57.5% there was dysuria or frequency of urination. In association with this we find 46.5% of the cases had nausea and vomiting, and 18% chills and fever.

Taking into consideration the changes in the menstrual flow we find 30.2% had excessive or prolonged flow and only 3.6% of the cases were associated with metrorrhagia. In 26.4% of the cases there was dysmenorrhea, while 14% had irregular menses. Clots of sufficient size to be noticeable to the patient were present in 11.2% of the cases. As we all know that a high percentage of these cases are gonorrheal in origin we find 19% of these cases had positive Wassermann, and 13% of these were in the colored race.

With this brief gynecological consideration of the symptoms presented let us analyse the operations and their results. The anesthesia used almost throughout this series was nitrous oxide and oxygen induction and ether anesthesia, spinal anesthesia being used in only 2.8% of the cases. In the group we have just discussed 100% had salpingectomy. 59% of these were bilateral. An incidental appendectomy was done in 66% of the cases.

Sixty-five and seven-tenths had unilateral oophorectomy, the ovary usually having undergone cystic degeneration or become involved in tube ovarian abscess. In 30.5% a suspension of the uterus was done, and 20.6% of the cases had supervaginal hysterectomy.

In this series of operations there were 8 deaths, three from pneumonia, three from peritonitis, one cardiac failure and one emboli. Seventeen cases were discharged as unimproved because of decubitus ulcers, low grade pelvic inflammation, anemia, etc., but there were 463 cases or 94.7% of the series discharged as improved.

Upon examination of this series of cases in the follow-up clinic we find that the record shows 16% of the cases had no improvement in the discharge in spite of the fact that 27.8% of the cases had a cauterization of the cervix at the time of the operation. These cases were treated by a second cauterization. Thirty-nine and four-tenths per cent of these cases were drained at the time of the operation, and only 13.9% of these cases had secondary infection of wounds after drainage, yet, there were only 2.6% of these cases that had weakness of abdominal incision at the point of drainage.

Three and two-tenths per cent of the cases had broncho pneumonia following the operation as shown by the x-ray, and 20% of these did not recover. Six and seven-tenths had persistant low abdominal pain upon return to work.

With the observation and minor corrections made in the follow-up clinic we can say that approximately 86% of the cases operated upon had a satisfactory functional return to normal health, with 1.5% mortality.

Let us next consider the group of 235 fibroids. In this series 90% of the patients are colored. The average age is 40 and average hospitalization, 18 days. In these cases the average duration of symptoms was two years, with one case 35 years. In 67.5% the initial symptom was an abdominal mass.

Thirty-seven per cent of these cases had children, and 17.9% averaged two children. One outstanding factor in these cases is that 98% of all of the children were born before the age of 21 and of those pregnancies that occured after 21 years of age, 94.5% resulted in miscarriages. Twenty-three, eight-tenths per cent of these cases had abortions, and 8% had more than two abortions.

In 62.5% of cases the initial complaint was mass in the abdomen, pains and backache, 14.8% on the left side, 21.7% dysmenorrhea, 21.7% complained of a feeling of weight in the pelvis, and, in association with this, 37% had urinary disturbances.

Taking into consideration the changes in the menstrual flow we find that 31.5% had

(Chart No. 2)

FIBROIDS

235 Cases	8 Deaths	Mortality 3.0%
90% Colored patients	Average age 40	Average Hospital days 18

38 Cases 16.1% Symptoms over 2 years 147 Cases 62.5% Mass first noticed

88 Cases or 37.0% had children. 17.9% averaged 2 pregnancies
55 Cases or 23.8% had abortions. 8.0% averaged 2 abortions

89 Cases or 37.8% had low abdominal pains, or backache. 14.8% on left side
87 Cases or 37.0% had urinary disturbances
51 Cases or 21.7% had dysmenorrhea
51 Cases or 21.7% had pelvic weight

102 Cases or 43.4% had excessive or prolonged menses
74 Cases or 31.4% had clots in menstrual flow.
42 Cases or 17.8% had irregular menses
18 Cases or 7.6% had initial symptom of haemorrhage

205 Cases or 87.2% had supervaginal hysterectomy
131 Cases or 55.7% had saplingectomy
117 Cases or 49.7% had appendectomy
18 Cases or 7.6% had myomectomy
43 Cases or 18.0% had drainage
12 Cases or 5.0% had total hysterectomy

8 Deaths (2 cardiac failure. 2 pneumonia. 1 shock. 1 int. obstruction. 1 pul. abscess. 1 emboli.)
7 unimproved 2.9%
219 improved 93.2%

26 Cases or 11.0% had institutional wound infections
20 Cases or 8.5% required cauterization of cervix
16 Cases or 6.8% had lax abdominal walls
16 Cases or 6.8% had dysuria and frequency
14 Cases or 5.9% had broncho pneumonia (all colored. x-ray).

clots in the menstrual flow, 20.4% had excessive or prolonged menses, 18.2% metrorragnia and 17.8% had irregular menses.

Let us next consider the types of operations for the correction of these conditions.

In 87.2% of the cases a supervaginal hysterectomy was done, in 7.6% a myomectomy, and 5% a total hysterectomy. Fifty-five and seven-tenths per cent had salpingectomy for disease of tubes, and an associated appendectomy was done in 49.7% of the patients.

In this series there were 8 deaths, two from cardiac failure, two from pneumonia, one from shock, one intestinal obstruction, one pulmonary abscess, one emboli. Two and nine-tenths were unimproved because of rupture and other complications which incapacitated them, 93.2% were discharged as improved.

Upon examining the records of the follow-up clinic we find 11% had secondary wound infections which were later cleared up in dispensary, and from this series 6.8% of the cases had some weakness of the walls at the point of incision, 6.8% had urinary disturbances in form of dysuria or frequency.

Fourteen cases (all colored) had broncho-pneumonia by x-ray diagnosis. In this series we have 93.2% of cases discharged improved, with 3% mortality.

(Chart No. 3)

OVARIAN CYSTS

36 Cases 1 Death 2.7% Mortality
Races divided equally Average age 31 years Average hospital days 24
Average duration of symptoms 2.4 years. 24 or 66% Mass first noticed

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17 Cases 47.0% had children. Average 2 children. 11 Cases or 28% had abortions. Average 2 abortions

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32 Cases or 88.0% had lower abdominal pain
22 Cases or 61.0% had leucorrhea
24 Cases or 66.0% had mass palpable in adenexa
18 Cases or 50.0% had urinary disorders
13 Cases or 35.0% had excessive or prolonged menses
11 Cases or 30.0% had pelvic weight
9 Cases or 25.0% had irregular menses
6 Cases or 16.6% had clots in menstrual flow
2 Cases or 5.5% had initial symptoms of haemorrhage

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18 Cases or 50.0% had salpingectomy
18 Cases or 50.0% had right oophorectomy
17 Cases or 47.0% had appendectomy
15 Cases or 41.6% had left oophorectomy
11 Cases or 30.0% had plastic operations
3 Cases or 8.3% had bilateral oophorectomy

Types
18 Cases or 50.0% simple
13 Cases or 35.0% multilocular
4 Cases or 11.0% dermoids
2 Cases or 5.4% papillomatous

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1 Death peritonitis 2.7% mortality
35 Cases or 97.0% discharged improved

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11 Cases or 30.0% had previous abdominal operations
7 Cases or 19.0% had wound infections
6 Cases or 16.0% had abdominal pains
6 Cases or 16.0% had dysuria
2 Cases or 5.5% had broncho pneumonia

The series of ovarian cysts presents a much simpler group. We have here one death from peritonitis, or a mortality of 2.7%. The races are equally divided, and the average age is 31 years, with average of 24 hospital days. The average duration of symptoms was 4 years, and in 33% of the cases abdominal mass was the initial symptom.

Forty-seven and four-tenths per cent of the cases had had children, with two the general average, and 28% had had abortions, with an average of two abortions to each case.

In this series 88% had lower abdominal pains as the initial symptom, 66% had palpable abdominal mass, 61% had leucorrhea, 50% had urinary disorders, and 30% had feeling of pelvic weight when standing.

Considering the menstrual changes we find that 35% had excessive or prolonged menses, 2.7% had metorrhegia, 25% had irregular menses, 16% had clots in the menstrual flow and only 5.5% of cases had initial symptom of hemorrhage.

Because of the simplicity of diagnosis we may easily prevent obstructive lesions together with the papillary changes that may occur later. Therefore, early diagnosis and correction in these cases is of great importance.

(Chart No. 4)

ABORTIONS

586 Cases 27 Operations 4 Deaths 14.8% Mortality
3 Deaths non operated Mortality .051%

296 Cases or 50.5% incomplete abortions
196 Cases or 33.4% complete abortions
94 Cases or 16.0% Threatened abortions

Average age 19.5 years.

In the series of abortions we find 586 cases were treated in this period of five years. Thirty-three and four-tenths per cent were either complete or completed after they entered the hospital, 50.5% were incomplete, and 16% were treated and discharged from the hospital without aborting. The average age in this series was 19.5 years.

Is this not an outstandingly high percentage of abortions?

In this series there were 3 therapeutic abortions and 24 cases that were inevitable and were completed to save the life of the mother. There were 4 deaths or 14.8% mortality which is a cry against manipulation in these cases. In contrast to this there were 3 deaths from non-operated cases or 0.051% mortality. We have not time here to consider the great morbidity in these cases, but only to say that the number is far too great and the mortality astoundingly high, which speaks for the institution of every means of prevention of such a condition, and the most conservative handling of these cases.

(Chart No. 5)

CARCINOMA OF CERVIX

36 Cases No operations 80% Radium treated
Races about equally divided Average age 39.5 years Average hospital days 17
Average duration of symptoms 1.9 years. 21 Cases or 58% initial symptom discharge

22 Cases or 61.0% had pregnancies Average of 4 pregnancies
11 Cases or 30.0% had abortions Average of 2 abortions

24 Cases or 66.0% had urinary disorders
18 Cases or 50.0% had lower abdominal pain (33.0 % pain was radiating in type)
14 Cases or 44.0% had weakness
13 Cases or 36.0% had loss of 5 lbs.. or over in weight

13 Cases or 36.0% had prolonged or excessive menstruation
13 Cases or 36.0% had profuse haemorrhage
12 Cases or 33.0% had clots in menstrual flow
11 Cases or 30.0% had metrorrhagia
5 Cases or 13.0% had irregular menstruation

3482 Milligramme hours average total dosage
Average of 2.3 applications per patient
Brass, aluminium and rubber being used as filters
20 Cases or 55.5% epidermoid carcinoma
2 Cases or 5.5% adeno carcinoma

The next series presents the gloomiest outlook both from the point of lack of early diagnosis and results of late treatment. There were 36 cases of carcinoma of cervix and in this series all the growths were advanced when first seen. No operations were performed, and the average number of admissions were three, with the usual stay in hospital of six days. The two races were about equally divided and average age for group was 39.5 years.

The average duration of symptoms was one year and three months, and in 58% the initial symptom was vaginal discharge; 61% had pregnancies, with an average of 4 pregnancies, and 30% had abortions, two abortions the average.

In this series 66% complained of urinary disorders; 50% had lower abdominal pain and 33% of these had radiating pains, 44% complained of weakness, and 36% had loss of five pounds or more in weight.

Taking into consideration the menstrual changes, 36% had prolonged and excessive menstruation, 36% had profuse haemorrhage, 30% had metrorraghia, 33% had clots in menstrual flow, and 13% had menstrual irregularities.

The treatment in these cases was non-operative, 80% being treated with radium, with an average of 3482 milligramme hours to each patient. Some of the cases were so advanced that only a small radium dose could be used, an average of 2.3% application to each patient, brass, aluminum and rubber filters being used. Fifty-five per cent of the cases were diagnosed by microscopic examination as epidermoid carcinoma. In 13 cases the growth was so extensive that specimen examination was not deemed necessary. Thirteen per cent had positive Wassermann.

Although there was no immediate mortality in these cases, in the majority the disease was so extensive that the duration of life could only be short and the hope of radium cure was not considered, the treatment, in most cases, was given only to check bleeding.

We are finding that in cases of carcinoma of the cervix that have a history of over six months the chances for a cure are very remote, for the shorter the duration of the disease, the higher the percentage of five year cures.

(Chart No. 6)
CARCINOMA OF UTERUS

15 Cases No operative mortality
Whites to colored 3 to 1 Average age 49 years Average hospital days 6
Average durations of symptoms 8.5 months 8 or 53% haemorrhage as first symptom

5 Cases or 33.3% had 2 or more children Average number of children 4. No abortions

5 Cases or 33.3% had R. B. C. below 3,400,000
4 Cases or 26.6% had palpable abdominal mass
4 Cases or 26.6% had weakness

10 Cases or 66.0% had evidence of metastesis at first examination
8 Cases or 53.0% had haemorrhage (average appearence of symptom after menopause 5.2 years)
5 Cases or 33.3% had malodorous discharge
3 Cases or 20.0% had metrorrhagia
2 Cases or 13.0% had loss of 10 lbs., or over in weight

5 Cases or 33.3% had Radium or x-ray
3 Cases or 20.0% had panhysterectomy

5 Cases or 33.3% no pathological speciman diagnosis
2 Deaths or 13.0% mortality from metastasis
Remainder unimproved.

The series of carcinoma of the uterus are likewise not encouraging. In this series there were 15 cases. In 33% no pathological diagnosis was made, because the growth was so characteristic and extensive it was not thought necessary. In this series the whites to colored were 3 to 1, with an average age of 49 years and average hospital days of six, with 8.5% months the average duration of symptoms, and 53% of these cases had an initial symptom of hemorrhage. This occured on an average of 5.2 years after the menopause.

In this group 66% had evidence of pelvic metastasis at first examination, 33% had R. B. C. below 3,400,000 with palpable adnexal mass in 26% of cases.

In consideration of the outstanding menstrual disorders we find aside from haemorrhage after the menopause that 33% of the cases had malodorous discharge, 20% had metrorrhagia and 13% had loss of 10 lbs., or over, in weight, associated with weakness in 26.6% of the cases.

In 20% pan hystereetomy was done, without mortality and with improvement. In 5 cases x-ray and radium were used with some temporary improvement in all of the cases, except the 3 operated on. The progress of the disease was not checked and in this series 2 deaths occured in hospital, 13% from metastasis without operation.

This group portrays the results of ignorance on the part of patients, for it should be known to all women that any abnormal bleeding clots or discharge about the age of 45, and especially bleeding after the menopause, is indicative of grave pathological changes within the uterus, and warrants immediate and thorough investigation.

SUMMARY

(1) Resume of 5 years service in gynecology shows that 94.7% of the cases of salpingitis are discovered improved, with only a risk of 1.7% mortality. Although the number of yearly admissions to the service is about the same, the percentage of operations is less, and conservative means of treatment is being thoroughly tried before operative procedures are advised.

Pneumonia and peritonitis are still the most predominant causes of fatality in these cases.

(2) In cases of fibroids 93.4% of the cases are cured with only 3% mortality. These cases give most satisfactory results, and

(Chart No. 7)
COMPARISON OF FINDINGS

	Salpingitis	Fibroids	Carcinoma Cervix	Carcinoma Uterus	Ovarian Cysts
Ratio-W. to C.	Equal	90% colored	Equal		White 3 to 1
Average age	22	40	39.5	49	31
Initial Symptom	Low abd. pain 95.4%	62.5% mass	discharge 58.4%	Haemorrhage 53.0%	Mass
Excessive	30.2%	40.4%	36.0%	....	3.5%
Irregular Menses	14.0%	17.8%	13.9%	....	2.5%
Clots in flow	11.2%	31.4%	33.0%	33.0%	16.5%
Haemorrhages	....	.. 42.3%	& discharge 58.0%	53.0%	5.5%

recovery is possible even after cardiac and nephritic deterioration has appeared.

(3) In the series of ovarian cysts 5.4% showed papillomatous degeneration; such a percentage makes one more hestitant about rupturing ovarian cysts before removal from the abdomen, and advocate early removal before degenerative changes may appear.

(4) In the series of abortions a striking comparison exists between mortality of 14.8% in these cases that required operative intervention, in contrast to 0.051% in the non-operated series. The morbidity in this series is far too high in either case.

The conservative non-operative treatment of these cases has proven most satisfactory in our hands and we believe that there are very few cases in which operative procedures are indicated.

(5) The most discouraging of all the groups are those of carcinoma of cervix and uterus. In practically all of these cases the diagnosis was not made until after metastasis had occured.

(6) It is our duty to make a more painstaking pelvic examination in all menstrual disorders. The State Board of Health makes pathological work available to all, and there are good laboratories in all the nearby cities. With such means for an early and accurate diagnosis, each of us should take advantage of this laboratory accessibility, and go through the precaution of removing a specimen from the cervix of every suspicious case (in itself a simple thing), and sending it in a small bottle of formalin, or other preserving fluid, for microscopic examination. If we do these two things conscientiously we will not only aid in educating the laity to the seriousness of disordered conditions, but we will be able to diagnose cases early enough to make possible a cure of this dreadful malady.

DISCUSSION

C. W. Hibbitt, Louisville: I should like to add a word about this presentation of Dr. Johnson's.

With the division of work at the City Hospital, it has fallen to the Gynecological Department to assume the responsibility of the abortion cases which come into the City Hospital. They have been given to us, and of course we have to assume the responsibility of proper care and results.

The larger number of cases which come there are criminal. When they enter the hospital, if they are not bleeding profusely, we let them alone hoping the uterus will empty itself without interference. We have an order to put nothing into the uterus or vagina unless it is absolutely indicated to empty that uterus immediately to save the woman's life from hemorrhage. We have only two curets we use there, and we seldom use them, the finger and the dull curet.

Another thing I wish to speak of is the early diagnosis of cancer of the cervix. You have noticed the results we have. The cases that we received into the City Hospital were practically all fatal. A man has his blood pressure taken occasionally, his general physical condition is checked. Chests of the suspected tubercular are examined at frequent intervals, but what have we done to protect the woman in the early diagnosis of cancer of the cervix? Very little.

If we could impress upon our patients that any irregular bleeding, any traumatized cervix that looks suspicious should be investigated and diagnosis made early (and it is a very easy matter to take a small piece of tissue from the cervix and send it to the laboratory) we are going to do a great deal to wipe out, or reduce the number of cases of cancer of the cervix and add years to the life of the woman.

I think it is our duty to watch our patients, watch our families, and try in some way to educate them to the fact that certain symptoms on the part of the woman should immediately call for pelvic examination, and not hesitate to take a piece of tissue from the cervix and send it to the nearest laboratory for investigation. (Applause).

J. B. Lukins, Louisville: Mr. President and

Gentlemen: I am sure that we all feel grateful to Dr. Johnson for this very complete and painstaking report of our work for the past five years in the Gynecological Department of the University of Louisville. It at least shows that we are trying to do something, and we are making progress. I am glad to say that under the splendid and able leadership of Dr. Charlie Hibbitt we are doing the best work in this department that we have ever done in my experience in many years.

Now, then, I rather expect that the report as made by Dr. Johnson, and the length of time we are compelled to keep these patients in the hospital, and of our high mortality, is rather surprising to many of you, but we must bear in mind that all of these are charity cases, many of them old, dirty and neglected cases. Most of them have, or have had. gonorrhea. Many of them have had syphilis; they are anemic, run down individuals with very poor resistance. Many of these cases are tubercular. Of course, as far as we know, none have an active tuberculosis at the time of operation.

The high mortality in both the abortion and the carcinoma cases is due to the same cause. They are advanced when we first see them. I am firmly convinced that in an incomplete abortion with infection where definite signs and symptoms of peritonitis are present, palliative and restorative treatment brings much better results than any operative measures.

I didn't know that Dr. Hibbitt was going to share with me this same idea but my own experience in the City Hospital bears this out.

Many of these cases, in fact nearly all of them when I see them, already have very definite infection, high fever and extended abdomen, and most of them are in very serious condition. You can readily see that any attempt at hysterectomy, curetage, or any operative measure would be fatal.

Our results in salpingitis have increased very much for the better in the last few years. That was very clearly shown in Dr. Johnson's report, our mortality now being only 1.7 per cent. This is due to the fact that we wait somewhat longer before operation. As a rule, in my experience when we operate so near the acute stage that it is necessary to use drainage it would have been better to wait a week or ten days longer before operation. When we wait until the temperature is normal for something like ten days, and rigidity and distension of the abdomen have disappeared, our mortality will be reduced to a minimum.

The saddest picture of all, of course, is the carcinoma cases. I happen to be on a service just at this time and we have on the ward right now a case of carcinoma of the cervix of the uterus, and a case of carcinoma of the body of the uterus. Both of these cases have metastasized into the broad ligament. Both are inoperable. The uterus is absolutely fixed. The patient is wasting in strength and nerve, and is beyond the operative stage.

Until the people and the family physician can learn that these cases must be diagnosed and sent to the hospital early, our mortality table will show no improvement. In private work, our results are very, very much better. The handling of the case is practically the same; the operation is the same; our means of diagnosis is the same, and the nursing is the same in private cases as in the City Hospital, but our results are materially better simply due to the fact that we make the diagnosis earlier and do the operation earlier. In some we operate, in some we use radium, and some both, but the whole outcome of the case as a rule depends on how soon we get the case for treatment. (Applause).

C. L. Sherman, Millwood: What are the dangers in taking a section from the cervix in a beginning carcinoma? I have noticed someone reporting that it was dangerous even to manipulate the cervix in making a digital examination as there was danger of metastasis. I want to know the danger in taking a small section for laboratory examination.

D. M. Cox, Louisville: Members of the Society: It has been my opportunity to see a number of these patients after they have been operated on for the past two years, and the thing I have been interested in chiefly is how well are they going to be after they get out of the hospital. How many of them are going to say, "Doctor I feel perfect." How many are going to say, "Doctor I still have that discharge I had before I was operated on." Something like fifty per cent of them do have.

A fairly large percentage of these cases that have cervicitis, at the time of operation have cauterization of the cervix. That is not a specific means of treatment for chronic inflammatory conditions of the cervix, but I think that is the best known type of treatment today.

Some of these patients are going to need to have subsequent cauterizations after they leave the hospital. That is one of the functions of the follow-up clinic in this department. The patients come back, and anything that comes up we try to take care of them. At the time of operation, as much conservatism as possible is used.

You will notice that in the inflammatory cases the average was twenty-two years. Some people will recommend a hysterectomy in these cases. If you do, they are going to be nervous wrecks. There are some cases where you have to do it, but the most common type of operation done in the hospital is bilateral salpingectomy and unilateral ovariectomy, leaving the patient with the ability to have the menstrual cycle, but of course without the ability of bearing children. These patients have the least number of symptoms when they come back to the clinic. Those patients where you have tried to be more conservative and leaving the tube so that they may subsequently become pregnant are very much more likely to have abdominal pain and further symptoms.

Dr. Louis Frank has said that the Neisserian infection that has gone through the uterus always affects both tubes. Sometimes at the operation one tube appears innocent. If you don't remove that tube, in a fairly large percentage of cases, you are going to have subsequent trouble from that tube.

In deciding what to do in a case like that I think you have to take into consideration the social position of the patient and, to a certain degree, the desires of the patient.

Another thing I have noticed, patients who have had hysterectomies from fibroids, if they have not had children, are given almost 100% relief, but if they have had children and have any amount of relaxation of the pelvic floor which was not very evident before because they had a tumor in the lower part of the abdomen and had no sense of everything falling out, so to speak, after the tumor was removed they come back and say, "Doctor, it feels like a weight in the bottom of the pelvis, just like everything is going to come out," they should have a perineorrhaphy at the time of operation. Those who have the perineorrhaphy usually have more urinary symptoms postoperatively, but eventually they have a much more complete and permanent relief after the operation. (Applause).

W. O. Johnson, (in closing): I am certainly grateful for the discussion and the interesting points brought out.

Nothing needs to be added to what Dr. Hibbitt has already said.

In regard to Dr. Sherman's question of the danger of taking a section from the cervix in cases of cancer. In advanced cases of carcinoma of the cervix metastasis is already present. In the early stage, if the case is non-malignant, no harm is done, and if malignant the importance of making an early diagnosis is so great that the possible chance that is taken of dissemination of the carcinomatous growth is negligible.

In those cases where a specimen has been removed cauterization of the cervix will help to prevent possible extension of the process.

With regard to Dr. Cox's remark about cauterization of endocervicitis at the time of operation 39.7 per cent of the cervices of this series were cauterized at time of operation, and in only 16 per cent of the cases seen in the postoperative clinic was a second cauterization of the cervix necessary.

Forty-two per cent of the series of fibroids, that had had children, perineal repairs were made at the time of operation, in order to prevent the pelvic weight and back symptoms which Dr. Cox mentioned.

The predominant causes of mortality in these cases was pneumonia and peritonitis. This brings up the question of type of anesthesia used. In the majority of cases nitrous-oxide and oxygen induction followed by ether anesthesia was used but in 2.8 per cent of the cases spinal anesthesia was given.

In answer to Dr. Picketts' question I will say that the best way to avoid trouble is to let it alone. Put the patients to bed, force fluids, keep comfortable with sedatives. If the abortion is inevitable we give ½cc. of pituitrin every hour for 4 doses, followed by 1 dr., flx., ergot every 4 hours for 4 doses, and with ice bags over abdomen, these cases usually solve their own problem, and no harm is done and packing is unnecessary.

THE INJECTION TREATMENT OF VARICOSE VEINS*

By Frank P. Strickler, M. D., Louisvillle.

The injection treatment of Varicose Veins is not of recent origin, as this treatment originated with Paravez, the inventor of the hypodermic syringe at the Lyon Medical School 1851. At this time however, the solutions used produced a coagulation of the blood in the veins instead of the effect on the vein we now secure. The fact that the solutions, namely perchloride or iron and iodotannic solution, produced a clotting of blood in the veins, were caustic and coagulant in their action and were accompanied by serious complications which finally led to the abandonment of the injection treatment and we only heard of the method occasionally until in 1908. Schrassi reported his cases in which he ligated the saphenous magna just below the sapheno-femoral opening and injected the lower portions of the vein with Lugol's solution. This combined technic gave fairly good results and is still used by many surgeons.

In 1911, Professor Linser noted in his clinic after repeated intravenous injections of corrosive sublimate in the treatment of syphilis that there occured a sclerosis of the vein with its complete obliteration. Professor Linser's observations led to the use of one cubic sentimeter of a 1% solution of bichloride of mercury as a method of treatment.

In 1917, invert sugar, a solution of 76% invert sugar with 4-6% cane sugar was introduced and in my opinion, the sugar solutions are by far the safest solutions to use. They may, however, require a few more injections to produce the desired results.

In 1921, the use of quinine and urethane

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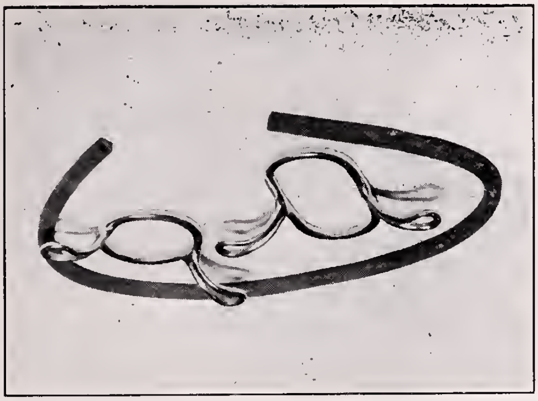
*Read before the Kentucky State Medical Association, Louisville, October 21-24, 1929.



No. I. Showing oblong and round self-retaining vein occluder with heavy rubber tubing used to retain occluder in position.

was brought out and many good results reported from its use.

Then in 1923, from the Linser Clinic, we get reports of the use of Sodium Chloride 20% solution, and many physicians have obtained good results from its use.

To Professor Sicard, of the University of Paris, goes the credit of introducing the Sodium Salicylate solutions, he used 20-30 and 40% solutions, and his technic is more accepted abroad than any other method.

It is of interest to note that the above mentioned solutions in most instances, were not used primarily as a sclerosing solution for varicose veins, but were used in the intravenous treatment of other pathological conditions and it was only after their repeated use that the sclerosing effect was accepted as a clinical fact and applied with such brilliant results in the injection treatment of varicose viens.

I know that in your mind arises the question of direct embolism following the injection of varicose veins, this however, has been well covered by the work of Jentzner when he injected Strontium Bromide into varicose veins, rendering the blood radiopaque and under the fluoroscope observed the circulation of the blood and found that in varicose veins the blood always flows to the periphery. Magnus did further work on this subject by injecting iodized oil and studying the circulation under the fluoroscope, he found that while in the upright position the circulation in varicose veins is to the periphery—in the recumbent position the circulation is either stationary, or, does occasionally flow toward the heart. These observations have been confirmed by other observers and are accepted as clinical facts. Therefore, it is much safer to have your patient in the upright position than recumbent, for, in the upright position the possibility of direct embolism is eliminated.

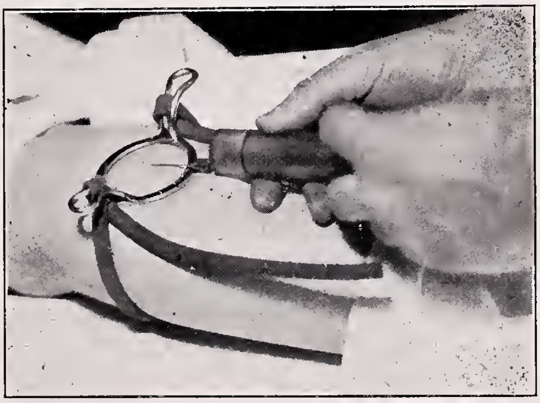
In my opinion, Dextrose and Sodium Chloride injections are the safest and produce much less pain and discomfort for the patient with less possibility of complications.

Sodium Chloride and Sodium Salicylate produce severe cramps following their injection, with marked perivenitis, infiltration and tenderness. Occasionally, patients have a marked idiosyncrasy from Sodium Salicylate and develop stupor and severe headache. Then these solutions have to be injected with great care, should a leak occur, it usually results in a local gangrene and slough with a very slow healing ulcer. Many advise immediate excision of the area and primary suture, expecting to prevent the ulceration and the slow healing process. Recently, I have been having my Sodium Chloride and Sodium Salicylate solutions put up in a 2% urethane, which in a large measure, does away with the pain and cramp that follows the use of plain Sodium Chloride and Sodium Salicylate solutions.

Quinine and urethane give about the same after results as Sodium Chloride and Sodium Salicylate, marked cramps, erythemas, marked reaction in cases of idiosyncrasy and sloughing when injected out of the vein. The use of these solutions with proper care and technic, however, produces marked sclerosis and obliteration of the varicose veins injected.

The injection of the 50% Dextrose solution with equal parts of 30% Sodium Chloride solution, causes much less reaction both locally and generally, being much more bland than the foregoing solutions. It is true, however, that it may be necessary to repeat the Dextrose injections when dextrose alone is used, as one injection may not secure the desired results. The combination of equal parts of 50% Dextrose and 30% Sodium Chloride however, give very positive and lasting results with far less pain.

By the injection method we secure the following changes in a varicosed vein: A perivenitis with inflammatory changes in the tissues surrounding the vein; the vein is narrowed in caliber and contains a firm fibrous



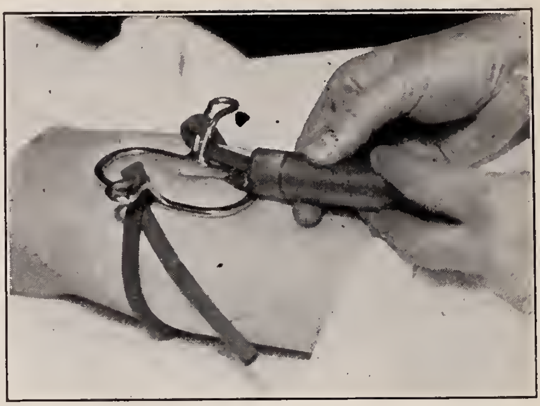
No. II. Round self-retaining vein occluder in position. Vein being injected.

thrombus firmly attached to the walls of the vein; destruction of the intima, also of the media with infiltration of leucocytes; and, eventually, complete destruction of the muscle fibers of the media by the infiltration of fibroblast. The eventual organization of the thrombus and fibroblasts completes the destruction of the vein, converting it into a fibrous cord with the lumen completely obliterated, this process is completed in about eight to ten weeks.

There are contraindications to the use of the injection treatment of varicose veins and it might be well to mention them at this point. In my opinion, every patient should have a careful physical examination to eliminate the following conditions which are a contradiction to the use of the injection treatment—diabetes, cardio renal disease, hypertension, Buerger's disease and Raynaud's disease, Arterio-sclerosis, active or latent phlebitis or obstruction of the deeper veins.

It must be borne in mind that the veins are to be injected while empty, the reverse of usual intravenous medication. If the veins are injected while full of blood your sclerosing solution will be so diluted by the blood that no results will be secured. There must be no leakage at the sight of injection. The patient can be injected while standing or sitting with legs hanging over the edge of a table. Also, if necessary, while reclining. The injection is done with a self retaining vein occluder used to keep the veins emptied of blood and keep the solution in contact with the intima. The needles used should be small sharp point 22-24 gage. The syringe 10 to 20 cc so that the vein can be alternately aspirated or injected to be certain that the needle is in the lumen. After injection, compression is maintained by the use of 3 or 4 inch Ace bandage, which is elastic and will give and contract. On the thigh, where the bandage is liable to slip, adhesive plaster strapping over cotton pads may be used to support the vein and secure pressure.

For the purpose of injecting the sclerosing solution, I have devised a self-retaining vein occluder, shown in cuts Nos. I, II and III. This occluder is made in two sizes, circular and oblong, and is held in place by a tourniquet of heavy rubber tubing. I use two feet of Ford stethoscope tubing. The tube slips into the slots on the side of the occluder and will hold it absolutely in position, maintaining an even pressure on the vein for any desired period of time. The occluder may be applied to the limb in any position and will stay in that position. It can be put on the patient while standing and the patient may then lie down, the vein is punctured, any desired amount of blood removed, then, your sclerosing solution injected. By use of the self-retaining occluder, this is a one man operation. The occluder may be kept in position three to five or ten minutes as desired, allowing ample time for the sclerosing solution to produce its effect on the vein.



No. III. Oblong self-retaining vein occluder in position. Vein being injected.

The above outlined procedure is repeated throughout the entire length of the varicosed vein under strict surgical asepsis as the tourniquet and occluder are thoroughly sterilized. The leg is prepared for injection of the sclerosing solution by removing the clothing and going over it thoroughly with ether followed by alcohol. I prefer ether and alcohol because it does not discolor the skin and the veins can be seen and felt through the skin. I leave the occluder in position three to five minutes and my results have been excellent.

I have employed with good results the following solutions: 30 and 40% Sodium Salicylate in 2% Urethane; 20 and 30% Sodium Chloride with equal parts of 50% Dextrose; Invert sugar; also 20 and 30% Sodium Chloride in 2% Urethane. I find that by adding Urethane to the above mentioned solutions, that the patient does not have the severe pain and cramps which accompany the injection of the plain solutions. Enough of the solution employed is injected to moderately distend the vein.

After the solution has been injected, a small pledget of cotton saturated in alcohol is strapped, with adhesive, over the puncture wounds made by the needles, to maintain pressure. Over this as previously mentioned, an Ace bandage is applied.

The tourniquet technic, as described by Dr. McPheeters, may be employed, or, there are some cases where no tourniquet at all may be used, but in my experience, the self-retaining vein occluder gives the best results, and by its use you may promise the patient a definite cure.

After the injection, the leg is firmly bandaged from the foot to the thigh and this bandage is worn two or three weeks, or, throughout the injection treatment, being changed every 12 to 24 hours. At times the entire injection can be completed in a short time and again the treatment may extend over several weeks. However, the patient is up and about during all of this time.

Immediately following injections there is soreness in the leg, swelling and a certain amount of discomfort. This however, is easily controlled by sedatives and heat. This condition clears up in a few days.

At the end of two or three weeks, when the injection treatment has been completed, the patient is sent home and asked to report back in two or three months for further observation and if necessary further injection of any vein that has not been completely sclerosed.

From a study of 4,607 cases treated surgically or by operative excision, there occurred a mortality of one in each 250 cases. From a study of 50,000 cases treated by the injection method, there occured a mortality of less than one death in 4,000 cases. Recurrence after operation or excision, averages 30%. After injection treatment 6%. These statistics are taken from reliable sources and, in my opinion, are conclusive.

Summary

The injection treatment of varicose veins is safe and efficient when the proper technic is employed.

A higher percentage of cures can be obtained by the injection treatment.

The injection treatment runs a much lower mortality than the surgical or excision treatment.

The injection treatment allows the patient to be ambulatory during the entire treatment. The technic is simple and can be executed by any competent physician.

The self-retaining vein occluder is of distinct advantage, and by its use, excellent results can more easily be obtained.

30% or 40% Sodium Salicylate and 30% Sodium Chloride put up in 2% Urethane produce much less pain to the patient and are absolutely safe.

Distribution of Blood Groups Among Patients with Leprosy in Livonia.—Weidemann and Kaktin examined the blood groups of 106 inmates of an institution for leprosy. In comparing the percentages of the various blood groups among the general population of Livonia with the results of their examinations on patients with leprosy they found that among the latter the representation of the groups AB and O was slightly increased. In the general population, however, group B was larger. The authors conclude that there is no evidence that any blood group is predisposed to leprosy. However, they observed that the disease is more frequent among women than among men, and also that certain races are more susceptible than others.

UNDULANT FEVER*

By S. J. Crumbine, M. D., General Executive and Director Division of Public Health Relations American Child Health Association.

Four hundred years B. C. Hippocrates, "the father of medicine" described a protracted fever which Castellani and Chalmers think possibly may have been what we now know as Malta or Undulant Fever. At all events there can be little doubt that Malta Fever has existed in some of the countries bordering on the Mediterranean Sea for many hundreds of years.

In 1859 Marston wrote the first description of Malta Fever. Having suffered from this distressing and protracted malady he was able to write a very accurate clinical description. He differentiated the disease from Typhoid fever and Typhus fever, with which it was and is now often confused.

In 1887 Bruce discovered the organism, the cause of the disease, which he later named Micrococcus melitensis. Bruce reproduced the disease in monkeys by inoculating the cultured organisms. Ten years later, Professor Bang of Copenhagen discovered the causative organism of contagious abortion in cattle which he designated Bacillus abortus. Bacteriological and serological investigations made by Evans, Fleischner, Meyer, and Shaw and others since 1918 have lead to the classification of these organisms as varieties of a single species known as Brucella melitensis.

The first case of Malta fever in the United States was reported by Craig, in 1905. He ventured the statement that many of the "obscure continued fevers which were prevalent in this country" were Malta fever and that the disease was by no means uncommon "in the warmer portions of the United States. It would appear therefore, that the disease, as it effects man and now generally known as Undulant fever, is not a new disease but that during the past thirty years the rapid spread of the variety of the organism affecting cattle and swine in this country has multiplied the hazards of infection in man and thus has caused a significant increase of human cases. Now, the disease unknown, or rather unrecognized, in this country, until Craig's announcement in 1905, has become so widespread that one state official considers Undulant fever a public health problem of greater importance in his state than Typhoid fever and the paratyphoid fevers combined (1). The prevention of the spread of Undulant fever is a problem demanding the serious consideration of farmers, dairymen and of officials charged with the protection of the public health.

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*Delivered at the Thirty-third Annual Conference of the Association of Dairy, Food and Drug Official of the United States, Lincoln, Nebraska, September 23-26, 1929. Published by permission of Educational Committee.

The Extent of Contagious Abortion in Cattle, Swine, Etc.

There seems to be no available data upon which to base accurate knowledge of the percentage of cattle and swine infected with the organism of contagious abortion. Some authorities seem to think that the peak of the infection is past and that with the newer knowledge of the disease and the more scientific and determined effort toward herd eradication planned somewhat after the pattern of tuberculosis eradication, the disease will become progressively less. On the other hand the Bureau of Animal Industry of the United States Department of Agriculture is authority for the statement that while bovine tuberculosis has decreased approximately 50% in the past ten years, contagious abortion in cattle has greatly increased and in many regions 35% or even more of the herds are infected, with a resulting annual economic loss of at least fifty millions of dollars.

From replies from several State Agricultural Experiment Stations and State Veterinarians widely distributed geographically, we gather the following interesting facts:

In Cattaraugus County, New York, there were 100 abortions among 2500 cattle. No information was available on the number of infected cattle. Pennsylvania reports that of 2600 herds tested, "approximately a 20% infection was revealed."

Illinois reported "that we tested approximately 3000 cattle in thirty-five counties for abortion in 1928 and found that one out of every five reacted to the disease."

Indiana reports that at least 50% of the dairy herds had contagious abortion varying from 2% to practically 100% in some herds.

Minnesota reports "that of 6,808 samples of bovine blood tested in the laboratories of the University Farm in the fiscal year ending June 30, 1928, 1744 were positive for the organism causing abortion."

Michigan "records indicate during the past eight or ten years that about 30% of the samples of blood submitted reacted positively. We would estimate that about 15% of all the cattle would give a positive reaction."

Wisconsin hazards the opinion that "probably 50% or more than 50% of the herds in the state, if tested, would reveal reactors to contagious abortion."

California estimates a 20-25% incidence of contagious abortion among its cattle.

Oregon states: "Our study of contagious abortion among cattle indicates that approximately 20% of the dairy cows of this state are affected with this disease."

There seems to be unanimity of opinion that the percentage of animal infection in infected herds runs from 10 to 15%.

The Incidence of Undulant Fever in Man

The extent of the prevalence of Undulant fever throughout the United States is unknown and difficult to estimate with any degree of certainty, owing to the fact that in many states the disease is not listed among those diseases required to be reported by law, and also because of the difficulty of diagnosis except through positive laboratory findings. The routine examination of blood for the diagnosis of Undulant fever is a procedure only recently adopted by many State Health Departments. Indiana (2) reports that its first case was discovered in January, 1927. The laboratory of the Kansas State Board of Health (2) has been making tests for Undulant fever since April, 1928." The State Board of Health laboratory in Kentucky (2) began to make routine examinations for Undulant fever on all specimens submitted for Widals early in 1928. The first cases of Undulant fever recognized in the laboratory of the Oregon State Board of Health (2) were discovered in 1928. Michigan (2) reports that "since 1925, all specimens negative to the Widal test have been likewise tested for Undulant fever, tularemia and paratyphoids." Probably not many states investigated Undulant fever before that date.

The late development of routine laboratory diagnosis of Undulant fever is indicated by the findings of a questionnaire survey made by Hardy (3). This survey stated that in 1926, seven states reported 34 positive cases of Undulant fever, and in 1927, 18 states reported 194 positive cases; by 1928, however, "40 states reported 560 positive cases." Included among the 1928 returns for individual states are the following: Michigan, 34 cases; New York, 45 cases; Oregon, 7 cases; Pennsylvania, 19 cases; Indiana, 40 cases; Iowa, 118 cases (2).

Undulant fever has been known in this country in epidemic form since 1922, when an outbreak involving 37 cases occurred in Phoenix, Arizona. Watkins and Lake, who investigated this epidemic (4) traced the infection to raw goat's milk. New York State (5) reported two small outbreaks of Undulant fever involving seven cases in 1927. "All cases occurred among users of the implicated milk which comprised only about one-sixth of the total milk sold in the community. A high proportion of cows in herds furnishing the implicated supply were positive to the test for blood serum agglutination of Br. abortus in high dilution, the organism being found in the milk of seven of the cows."

Four epidemics were reported (6) in 1928, involving cases noted as follows: Earlham College, Richmond, Indiana, 9 cases; Wayland, Kentucky, 7 cases; Utica, New York, 3 cases; Salem, Oregon, 5 cases. These epidemics were associated with the presence of infectious abortion in cattle.

The clinical analysis of 125 cases of Undulant fever in Iowa by A. V. Hardy, as published in the March 16, 1929 issue of the Journal of the American Medical Association, is probably the most complete analysis of the clinical situation in relation to human infection that has yet been presented in any state. Of special interest is the fact that of the 125 cases studied, none were children under five years of age and only three less than ten years. Other observers have noted the absence of infection in babies and very young children. The same observation has been noted in the case of very young animals; calves from infected cows remaining free of the disease if separated early. Indeed, infectious abortion rarely attacks cattle until the animal is approaching sexual maturity. This is fortunate in that it points the way for more certain eradication and the building up of clean herds.

THE EPIDEMIOLOGY OF UNDULANT FEVER

In 1918, Miss Evans of the Hygienic Laboratory, U. S. Public Health Service, announced that the organism, the cause of Undulant fever, was practically identical with that causing infectious abortion of cattle. After a more exhaustive study she divided these related organisms into seven serological groups with one or more strains in each group.

The majority of the bovine and porcine strains she included (7) in one large group, designated as Brucella melitensis variety abortus; two strains of human origin were in this group. She designated another group as variety melitensis A, which included strains of human, bovine, caprine and equine origin. A third group she named variety melitensis B. The similarity in morphological and serological characteristics of this group of organisms complicates the epidemiological analysis of cases of Undulant fever in man. Dr. Theobald Smith commented on this problem before the Annual Conference of Health Officers in Saratoga, June 25, 1929 as follows:

> "Bacteria closely related to the original Malta fever bacillus as isolated from the human patient have been found in goats, cattle, swine, sheep and horses. In cattle they produce the so-called infectious abortion which is world-wide in its distribution. It is safe to state that in this country and perhaps in other countries, five or ten years ago few herds were free from this disease. The bacillus frequently lodges in the udder and is shed in the milk (though in small numbers) for months and years even when abortion does not occur. In swine it produces abortion and it may also be in the udder. To date the United States and Hungary appear to be the only countries where the swine disease has been definitely shown to exist. We have no information concerning its occurrence in sheep in this country. The goat disease has been found in some of the southwestern states and in Utah. Its significance in horses is not clear. Only a few cases have been traced, chiefly in France."
>
> "The problem confronting the health officers is the particular source of the bacilli found in human patients. The solution of this problem is made difficult on account of the great similarity of the bacilli from the different animal sources. While slight differences may be brought out by bacteriological technic and animal inoculation they are neither sharp nor constant. In this country the problem is practically narrowed down to two sources, cattle and swine. In view of the prevalence of infectious bovine abortion in this country for some 30 or 40 years with a peak, probably 10 years ago, the question arises why not more cases, and even local epidemics. The tentative explanation resulting from studies of human strains of the bacilli is that the genuine bovine type is relatively harmless to man and that the swine type is largely responsible, either directly in the handling of swine or raw pork or indirectly when the swine bacillus is introduced into the cow's udder in one of several ways."
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> "Geographical varieties of the bovine type may, however, exist which favor human infection. In Denmark the human strains appear to be identical with the true bovine type."

Dr. Smith's hypothesis that it is the porcine, not the bovine type of Brucella melitensis which is responsible for human infection, is supported by recent studies of the incidence of Brucella melitensis infection in man. Giordano and Ablesion (8) found positive agglutinations with Br. melitensis 5.9% of 1000 sera of individuals seen in general hospitals, clinics and private practice. Orr and Huddleson (9) studied the sex of 500 inmates of an institution for epileptics, all of whom drank raw milk from a herd proven to have contagious abortion. They found only 1.4% (7 cases) positive for Br. melitensis.

McAlpine and Mickle (10) tested 10,157 sera submitted to the Connecticut State Department of Health laboratories for Wassermann tests. Only 0.6% (63 cases) gave positive reactions with Br. melitensis through the 1:100 dilution.

Commenting on these results, the authors state: "These results obtained in a state where preliminary testing has shown at least 90% of the dairy herds to be infected with B. abortus and approximately 60% of the milk only is pasteurized, indicates that infection of man with the bovine type of B. abortus is relatively rare, provided any significance can be attached to the agglutination test."

As above indicated, Theobald Smith believes that the swine organism may infect the udder of dairy cattle and thus be the infecting agent in milk produced from such dairy cows. The widespread prevalence of the disease in dairy herds makes it certain that in the mixed milk from herds containing one or more infected cows, there is almost a certainty of having an infected milk supply. In support of this are the findings of a survey reported by Hastings (11) in which the milk supply of "67 towns, 2 small cities and 1 larger city of 200,000 showed the presence of the organism in 20.4% of the samples examined."

The possibility of the porcine type of Brucella invading the udder of cows, as pointed out by Theobald Smith, at once suggests the necessity of having the hog-pens and lots widely separated from the dairy barns and that those in intimate contact with swine, especially as breeders, should not be milkers or handle milk or milk products. These requirements should be added to dairy control rules and regulations, and rigidly enforced. Hardy's study of the source of infection in the 125 Iowa cases referred to above, is of interest in this connection. The evidence of his study shows that at least in 52 cases the infection was acquired from cattle. In one case the probable source of infection seemed to be derived from a human case. In the remaining cases the infection was either from cattle or swine. "In 25 cases in which there had been no direct contact with livestock the evidence suggests that the organism was transmitted through raw milk or cream." As already pointed out, this study showed that there were no children under five years of age infected. As to sex, there were 98 males and 27 females, apparently showing a greater hazard of infection to males, probably due to occupation. When we analyze the occupations of those studied we find that 82 were engaged in occupations that brought them into more or less direct contact with live stock, dairy products or meat. Among these were "56 farmers, 8 farmers' wives, 3 stock buyers, 12 packing house workers, 2 workers in dairy products plants and 1 butcher. The remaining number included 12 housewives, 5 students, 5 children, 3 mechanics, 2 nurses and 1 each of the following: physician, professor, lawyer, postmaster, druggist, real estate agent, insurance agent, miller, printer, laborer, hospital attendant, fireman, jobber, merchant and a storekeeper." Further analysis disclosed that 46 of these individuals lived on farms, 7 in towns of less than 1,000, 12 in towns of between 1,000 and 5,000, and the remaining 18 cases lived in cities of more than 5,000.

The Control of Undulant Fever

Further epidemiological investigation will be necessary to gather evidence on the relative infectiousness to man of cattle, swine and goats suffering from contagious abortion. Whatever its direct or indirect source may be, there is complete agreement as to the method of preventing the spread of Br. melitensis when it has infected cow's milk.

There is unanimity of all observers that pasteurization at the standard temperatures is completely effective in producing a sterile milk so far as the Br. melitensis organism is concerned. With each new advance in the knowledge of infectious diseases, we are impressed with what appears to be the increasing health hazard in relation to these diseases that the consumption of raw milk entails. At the annual conference of the State and Provincial Health Authorities on June 1, 1929, I reported that 43 milk-borne epidemics involving 2129 cases and 94 deaths had occurred in the United States and Canada during 1928. Three of these epidemics reported by State Health Officers were caused by the Undulant fever organisms.

Legal responsibility of municipalities for the protection of their water supplies against the possibility of their being a medium for the conveyance and dissemination of typhoid fever has been fixed by many State Supreme Court decisions. The time may not be far distant when municipalities will be held equally accountable for milk-borne epidemics now that effective means are available for their prevention through proper pasteurization.

The other alternative seems obvious, namely, that with increased knowledge of the people there is an increasing demand for assurance of safety, and, if whole milk is to hold its place on the table of the American home against evaporated, dried and condensed milk, which is at least safe and which is having increased yearly sales, then we must assure the consuming public of safety through universal pasteurization.

In consideration of these facts herewith presented, there can be but one answer for the elimination of these milk-borne epidemics and the further reduction of a large portion of that factor of infant mortality listed under diarrhoea and enteritis, namely; universal pasteurization of all market milk and dairy products.

To Summarize

Undulant or Malta fever has probably been prevalent in the Mediterranean countries at least for many hundreds of years.

Marston wrote the first description of Malta fever in 1859, differentiating it from Typhoid fever and Typhus fever.

Bruce discovered the organism, the cause of the disease in 1887.

In 1905 Craig reported the first case of Malta fever in the United States.

The spread of contagious abortion among cattle in this country has been very rapid during the past 25 or 30 years, although there are some authorities who think that the peak of infection has been passed.

The actual percentage of infection among dairy cattle in this country is unknown, although estimates place it as high as fifty per cent of all herds infected and from 15 to 50 per cent herd infection and that the annual economic loss of this disease in cattle is in the neighborhood of fifty millions of dollars.

There also seems to be a heavy swine infection in this country and Hungary. Coincident with the increase of abortus infection in cattle and swine, there has been an apparent increase of human cases of Undulant fever. This apparent increase may be due to improved methods of diagnosis, as hitherto many cases of protracted fever have been diagnosed as that of other diseases, chiefly typhoid fever, typhus fever or tuberculosis.

There seems to be agreement that the porcine strain of the organism is the most highly infectious.

Apparently children under five years of age are not highly susceptible to the disease.

It has been clearly proven that Undulant fever may be milk-borne, which adds to the accumulating urgent reasons for efficient pasteurization, which has been proven to be effective against this disease.

The economic importance to the cattle industry and the public safety from the standpoint of public milk supplies, demands serious consideration for the inauguration of means and measures to eliminate the disease from domestic animals and the public health hazard from milk and dairy products; that pig-pens, feeding lots and breeding houses should be widely separated from the dairy barns.

Finally, the time may not be far distant when municipalities may be held responsible for the transmission of milk-borne infections on the same principle that they may be held legally responsible for the transmission of certain preventable water-borne diseases.

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SPINAL ANESTHESIA*

By E. W. Northcutt, M. D., F. A. C. S.
Covington.

Spinal anesthesia is not new. Matas used it successfully in 1899 and Babcock has used it for a quarter of a century. However for one reason or another its use was largely discontinued—from a review of the literature it would seem this was partly due to a lack of a standardized preparation as well as a lack of knowledge of its modus operandi. With the development of safer anesthetic agents and a better knowledge of their action spinal anesthesia has been revived during the last few years. While there are several methods of administration being used in different clinics the drug used in practically all is novocain. The method of administration and the handling of the patient during anesthesia will vary somewhat with the preparation used—for instance, one should not have the patient sit up if a preparation is used the specific gravity of which is less than that of spinal fluid, while if a heavier solution is used the patient should not be placed in the Trendelenburg position during or immediately after injection.

Many and varied complications have been assigned to spinal anesthesia such as nausea and vomiting, severe headache, respiratory paralysis, shock and syncope, meningitis, neuritis and the palsies, nervousness and vasomotor paralysis. However with a better knowledge of its action and improved technic in its administration these complications have been very greatly diminished. Different explanations are given of the cause of these complications as well as different methods of handling them—this only goes to show that, like many other phenomena in medicine they are not thoroughly understood. In my opinion these complications have been somewhat overdrawn. The most important thing about the treatment of the various complications is the same as in many other conditions—prophylaxis—and we can usually apply prophylaxis advantageously. For instance, with proper surgical technic one should never have meningitis; if the anesthetist is tactful he can nearly always avert the nausea and vomiting by engaging the patient in conversation, and applying cold cloths to the face and having him breathe deeply through the mouth. Respiratory and vasomotor paralysis probably do not occur except as a result of anemia of the brain and, if the patient is kept in the Trendelenburg position there will not be anemia of the brain. In three of our cases the entire body was anesthetized and yet the condition of the patients remained good throughout the operation and their convalescence was satisfactory. Koster and his associates have repeatedly anesthetized the entire body, performing under it such operations as costatectomy and thoractomy, radical mastectomy, embolectomy of the axillary artery, thyroidectomy, resection of cervical glands, excision of tumors of the tongue, face and scalp, craniectomy, mastoidectomy and nasal plastic work. He used .2 gram novocain dissolved in 8 c. c. of spinal fluid. Labat regards the Trendelenburg position as the most important factor in preventing respiratory or vasomotor paralysis.

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*Read before the Kentucky State Medical Association, at Louisville, October 21-24, 1929.

In our small series of cases reported here we used spinocain which is a 2 c. c. ampoule preparation made according to the formula worked out by Dr. Pitken. It contains novocain 200 mg., Strychnine sulphate 2.2 mg. in a solvent consisting of alcohol 14.5% and sterile water with the addition of amylo-prolamin combination. Another ampoule contains one c. c. Ephedrin Hydro-chloride 5% and novocain 1% solution.This is used to anesthetize the site of injection and so sustain the blood pressure. Spinocain is lighter than the spinal fluid, its specific gravity being 1.0005 while that of the spinal fluid is about 1.0065. It is slightly viscid due to the amylo-prolamin combination it contains. It will thus be seen that spinocain will float on the spinal fluid and remain localized much as the air bubble in a spirit level. By expanding it with spinal fluid to the proper volume and by tilting the operating table to the desired degree the novocain can be localized in the spinal canal giving anesthesia only to that level—hence the term "Controllable Spinal Anesthesia" used by Pitken. In our work we attempted to follow out the method recommended by Dr. Pitken which is briefly as follows: The patient is placed horizontally on his side with his head and knees brought close together, and his back bowed out and his hips and shoulders placed perpendicular. Under strict asepsis a wheal is raised with the Ephedrin novocain solution at the site of puncture, using a 25-gauge needle. Then the under-lying tissues are infiltrated. The spinal puncture is then made with a twenty or twenty-two gauge needle and the syringe into which the spinocain has already been drawn is connected with the needle. Spinal fluid is slowly withdrawn one or two c. c. at a time and the process repeated and reinjected until the spinocain has been expanded to the proper volume. The patient is then placed in position for operation and the advance of the anesthesia is watched until it has reached the desired level.

We do not drape the patient until we are sure the anesthetic is satisfactory because it is occasionally necessary to make a second injection. The patient is kept in the Trendelenburg position during the operation and for for several hours after he is returned to bed.

Spinal anesthesia had not been used much in our locality and we experienced some difficulty in getting it started. Some interesting objections, not all made by laymen, are advanced against its use. It is frankly explained to the patient what spinal anesthesia is and it is left to him whether or not we shall use it. Lately patients have been requesting it.

One hundred cases are reported here, comprising operations on the foot and leg, amputations through the femur, open and closed reduction of fractures of the lower extremities, rectal and vaginal operations, prostatectomy and various types of pelvic operations and operations on the gall bladder and intestinal tract.

Anesthesia was satisfactory in 95% of the cases, eight of these however were given small amounts of gas largely for the psychological effect. Six per cent received a second injection, 1 c. c. being used. In all of these, anesthesia was quite satisfactory after the second injection. Vomiting occurred in eight per cent. Several of these however, vomited before coming to the operating room. Apparently it was caused by the morphine premedication as they vomited later when morphine was given for pain. There was no serious complication in the series, the most troublesome being headache, in one case lasting three days. About 6% complained of headache lasting for a few minutes to several hours.

Anesthesia was unsatisfactory in 5% of the cases. We failed to get into the canal in one case. Nearly all our failures occurred among our first cases and in my opinion the trouble lay with us.

A few of our cases are possibly of sufficient interest to be mentioned very briefly in detail.

Case 10397—Mr. F. Mc. was in the fifth week of typhoid when he felt a sudden sharp pain in the calf of his left leg. His foot soon became cold, and gangrene rapidly developed to the upper part of the calf. His general condition was of course poor, presenting the usual picture of one in the fifth week of a severe siege of typhoid fever. Amputation was performed at the junction of the lower and middle thirds of the thigh. His general condition remained practically unchanged during the operation and his convalescence was uninterrupted.

Case 10441—Dr. G. S. weighed 230 lbs. He had a retro-cecal appendix lying very close under the liver and was perforated near the tip. Anesthesia reached the second rib and the hands. The blood pressure which was 140-80 before operation dropped to 85-60. Caffein was given with no effect, then Adrenalin was given with no effect, the blood pressure falling to 75-55. He complained of inability to get a good breath. Breathing was diaphragmatic in type. Pulse ranged from 72 to 78.

In my opinion vasomotor depression due to spinal anesthesia is not restored by stimulants administered in the ordinary manner. The most effective treatment is the Trendelenburg position.

Case 10847—Mr. W. Mc. was seventy-two years old. He was sick with an acute bronchitis when he fell and sustained an ugly fracture of his right hip. He was semi-delirious and it was impossible to keep him quiet or to keep the limb in position by the simpler methods, such as sand bags, extension, etc. Under spinal anesthesia the fracture was reduced and a light plaster spica was applied. His bronchitis gradually cleared up and union of the fracture was satisfactory. When last seen he was walking with a cane.

Case 1171—Mrs. A. W. aged 59, fell and fractured the right femur through the trochanters. She was very nervous and external fixation was unsatisfactory. Nervousness also made it impossible to get her in proper position for lumbar puncture. A small amount of gas was given which was discontinued as soon as the injection was made. Open reduction with bone peg fixation was then performed. Relaxation in fractures is excellent under spinal anesthesia, very little traction being required.

Case 11371—Mr. J. B., a robust young man had an acute gall bladder attack with chill and elevation of temperature two weeks before operation. At operation a large solitary stone was found impacted low in the gall bladder. The gall bladder wall was thick and somewhat edematous. Relaxation and anesthesia were satisfactory at the site of operation but he complained of rather severe pain in the right shoulder. According to Kiss and Ballon this pain is through the connection of the celiac plexus with the cervical plexus via the medullated fibers of the phrenic plexus and the phrenic nerve.

Case 11423—Mrs. R. C. was a small frail woman. She had bilateral pyosalpinx with extensive adhesions. During the operation she asked for a drink of water. There was nothing unusual about her drinking but she claimed it "stuck" in her throat. Investigation revealed anesthesia of the entire body. Her condition was good throughout the operation.

Case 11498—J. H. was a normal boy eight years old. He was admitted to the hospital with a fracture through the middle third of the femur. Two attempts were made at reduction under ether without success. Under spinal anesthesia open reduction and bone peg fixation was done. Failure at reduction under ether was due to separation of the fragment ends by a thick bundle of muscle tissue. The case is mentioned because of the age of the patient.

Case 11972—Mrs. M. H. was 74 years old and had had a femoral hernia for thirty years. At six o'clock P. M. three days before admission to the hospital, she was suddenly seized with a severe pain in the left inguinal region followed in a short time by vomiting. Vomiting and pain continued at intervals. For 12 hours before admission the vomitus had been dark in color and of a fecal odor. Upon admission examination revealed a small frail woman, nauseated and apparently in severe pain. She looked dehydrated, and the pulse was rapid and irregular. A firm mass about the size of a man's fist was located in the left inguinal region. The hernia consisted of omentum and a knuckle of small bowel apparently not including the entire lumen. On releasing the pressure, color slowly returned to the bowel. Part of the omentum was resected, the hernia reduced and the wound closed in the usual manner. The patient did not vomit again and her convalescence was satisfactory.

Comment

1. Spinal anesthesia requires some special technical skill and knowledge of asepsis.
2. The anesthetist should be equipped to administer any of the inhalation anesthetics. He should be alert and tactful.

3. Attention to details will avert most of the complications of spinal anesthesia.

4. It is a very satisfactory anesthetic in fracture work of the lower extremities.

5. It is possible to anesthetize the entire body without serious complication.

6. In falling blood pressure from spinal anesthesia the ordinary heart stimulants given in the ordinary manner do no good. The Trendelenburg position is the most effective way to combat this complication.

7. An effort has been made to write the paper and report the cases without bias.

DISCUSSION

Frank P. Strickler, Louisville: I feel this is a very important subject. I don't think it should be passed without a little discussion.

In my opinon, spinal anesthesia is here to stay, and given the proper care we will get good results. But, if we abuse it, we will get bad results. Certainly, in abdominal surgery, spinal anesthesia will give you excellent results, and especially in intestinal surgery. In the type of case Dr. Boland mentioned yesterday, intestinal obstruction, spinal anesthesia fills a place that no other anesthetic will. Frequently, by the use of spinal anesthesia, a differential diagnosis can be made between true mechanical intestinal obstruction and other types of intestinal obstruction. In other words, under spinal anesthesia, the intestines lie quiet. You can push them around and you don't have to be continually pushing them back into the abdomen. If you move your intestines in one place, they lie there perfectly quiet. Especially in surgery of the large intestines, spinal anesthesia has a very useful place, and it is also very useful in those patients who are unable to take a general anesthetic.

I have used spinal anesthesia quite a few times, not personally, as I feel that spinal anesthesia should be administered by a Specialist in anesthesia, that the patient should be carefully observed by the anesthetist the entire time they are on the operating table. Dr. Elliott, in the City of Louisville, who specializes in anesthesia, does most of our spinal anesthesia for us. I feel that spinal anesthesia fills a very distinct place in surgery, and is certainly a wonderful anesthetic when properly used.

C. L. Sherman, Millwood: I should just like to ask the essayist one question in regard to the late statistics on spinal anesthesia. Are they improving in regard to the general anesthetic? What do the late statistics show the mortality of spinal anesthesia to be when compared with the general anesthetics of today?

J. W. Scott, Lexington: I want to call attention to one thing in particular that should be borne in mind whenever cocain or any of its derivatives are used, and that is the contrary pharmacological effect of the barbituric acid group to cocain. These are valuable in preventing the toxic effect of cocain and its derivatives in spinal as well as in other forms of anesthesia. I think it is a wise provision, when cocain or its derivatives are used, to have a soluble salt of this group, such as sodium luminal, at hand for use in case toxic symptoms arise.

W. R. Miner, Covington: Since I am associated with Dr. Northcutt and have the opportunity of observing all of his spinal anesthesia cases, I thought I should like to say a word on the post-operative recovery of these patients.

I became particularly interested in them following the first one that was given, and I have tried to note what effect it had on the various systems of the body, such as the digestive system, respiratory, urinary, and so forth.

Immediately after his return from the operating room, you will find the average patient lies quietly in bed, normal in practically every way as before operation. He is warm, has a good color, has an unchanged pulse, respiratory rate and blood pressure.

In regard to the effect on the nervous system, we found that most of them are surprisingly free from shock. In fact, it seemed to eliminate shock in a few cases. Headache occurred occasionally, but elevating the foot of the bed relieved that.

In regard to the digestive system, it not only is not interfered with, but it seems to be benefited because spinal anesthesia stimulates peristalsis, and this alone in some cases may prevent ileus or post-operative distension from occuring.

Aside from that, they can take nourishment and drink fluids from the time they leave the operating room unless contraindicated by the type of operation.

With regard to the pulmonary system, I don't think we had a case of post-operative pneumonia, atelectasis, or flooding of the bronchi with mucus.

Spinal anesthesia has no bad effect on the urinary system.

In regard to the heart—it is benefited indirectly by the absence of complications in the other systems.

We came to the conclusion that spinal anesthesia interfered less with the normal functions of all the systems in the body than any other anesthetic that gave such profound relaxation. (Applause).

Leon L. Solomon, Louisville: Gentlemen: Dr. Carl Ludwig Schleich, noted for his path-finding work in local anesthesia, was invited to resign from the Berlin Medical Society for daring to speak in strong disapproval of chloroform and ether, and when he refused, was voted out by an overwhelming majority. It is interesting to note that Schleich was shortly thereafter invited to present his views before a Paris medical society and when he was proclaimed aloud by the French profession, be it said to the credit of his Berlin colleagues, he was reinstated into full membership cum laude.

In 1896, in Professor Olshausen's Gynaecological Clinic in the Charite Hospital, Berlin, where the brilliant surgeon was in the habit, one time weekly, of doing his so-called "Stuhl Operationen," beginning at 7:00 A. M., I went through the harrowing experience of witnessing three deaths from chloroform in the course of one morning's work. Such a thing could hardly happen in a clinic in this country, without disturbing the operator. With the usual calmness of the scholarly German teacher, it was passed by without unusual comment.

In 1895, it was my privilege, while assisting at the Ruptured and Crippled Hospital in New York to be present when Dr. Coley, assistant to Dr. Bull, was called upon to operate an infant for strangulated hernia, the baby being then in the third day of a pneumonia. Chloroform, at the time, was under the ban in New York, ether, alone, the anesthetic of required choice. Operator and anesthetic must assume full responsibility in the event of death from chloroform. Fresh from an interneship at the Louisville City Hospital where we gave little ether in 1894-5, I volunteered to give chloroform to the infant, not realizing the tremendous responsibility, assumed. The operation was concluded without difficulty by Dr. Coley, who, already in those early days was an adroit surgeon.

I address myself to the subject of anesthesia at this moment, because I feel that the day has gone for ether and chloroform, except in those rare instances in which so-called local anesthesia or spinal anesthesia, with or without gas-oxygen, is not sufficient to place the patient wholly under the control of the operator. This position was taken by me three years ago, when I made bold to say no less at the Louisville meeting of the Mississippi Valley Medical Association. On this occasion, my esteemed friend, Dr. Carl Weidner, reminded me of the experience of Schleich, in Berlin.

Why do we continue at this time to inflict our patient with ether anesthesia? Because, I think, we work along the line of least resistance. To administer ether is easy. Though the fumes are wholly irrespirable and the patient fights the anaesthetic he is subdued by slipping the cone over his face and requiring him to breathe. Nothing is more trying to me than to see an infant or a young child, fighting to the last notch, until he is overwhelmed with ether. The surgeon prefers an anaesthetic which brings about profound anaesthesia—he wants his subject wholly under his control. The cost of ether anaesthesia is small. The immediate danger of death is light. Wherefore and therefore, we continue to give preference to this alcoholic derivative.

Shortly, there will appear records of the transactions of the Society of Anaesthetists, which recently met during the sessions of the Surgical Society in Chicago. These anaesthetists have taken the position and they have gone on record concerning the dangers of ether; their position, if I read it correctly, is unequivocal and undeniable.

They recommend that the hospital shall appoint a commitee of four men—surgeon, internist, pathologist and anaesthetist—who will truthfully and accurately inquire into all deaths, which follow general anaesthesia, whether such death occur during the surgery, immediately thereafter or within three or four days following the surgery. This is a forward step. I reiterate what was said by me three years ago: Ether is not the safe anaesthetic it has been claimed to be.

I congratulate the doctor upon bringing this fine paper up for our consideration. (Applause).

A. W. Adkins, Morehead: What are the possibilities of spinal anesthesia to the country doctor?

There are numbers of cases, as you all know, where we are required to reduce fractures of the leg that are particularly difficult. Many of these cases, at the present time in the state of Kentucky, have to be done by one physician. Sending them to the hospital is impossible; they refuse to go.

Is there any possibility of spinal anesthesia being developed to the point where a man will be enabled to give it successfully by himself?

E. W. Northcutt, (in closing): I want to thank you for your discussion.

I believe there were only two direct questions asked. One was about the mortality of spinal anesthesia.

The only definite statistics that I know of are those that were given me by Dr. Pitken when I was with him last fall. He had given at that time, as I remember, between 4,000 and 5,000 without any mortality. Those are the only statistics I know of. Lots of people have as small a series as we have. I don't think that means anything much as far as mortality is concerned.

The other is the question of spinal anesthetic in handling fractures in the country. In the first place, I believe that spinal anesthesia, if possible, should always be given by an anesthetist. I am not an anesthetist. Our anesthetist uses it for us. I don't think it should be given unless there is an anesthetist present to give any of the other anesthetics should the situation demand. I believe later on when it is better developed it can be given. I believe as time goes on we will be able to give larger doses.

I was reading a reprint just a day or two ago where a man had given eighteen grains of novocain without any ill effect. The operation was satisfactory, and the patient was from under the anesthetic in an hour and thirty minutes.

The handling of bad fractures in the country is a serious proposition for a doctor to do by himself, so it is a pretty hard question to answer. However, I believe in time spinal anesthesia will be given in those cases in the country satisfactorily.

It is a very satisfactory anesthetic in fractures of any type, and it is a nice anesthetic in pelvic work. I have done hysterectomies with the use of only one large sponge to lay in behind the fundus, and never troubled with the intestines coming up in the field at all. Recently, we have been using amytal quite a good deal, and it is an ideal anesthetic so far as the patient is concerned, but it does not give relaxation of the abdominal muscles and it is necessary to combine it with some other anesthetic such as a little gas because he will move on the table if you don't do that.

Later on, we may be able to give larger doses. They have given as much as forty-five grains of the amytal without any mortality, but the usual dose they are giving around Indianapolis is seven to fifteen grains and add a little inhalation.

To my mind, spinal anesthesia is far and away ahead of any straight inhalation anesthetic. You avoid the dehydration for one thing. You have very little vomiting, as a rule, after the spinal anesthesia. The patient can take fluids up to the time of operation during the operation, and afterward, which I think is a point in its favor. I believe sooner or later the ideal anesthetic, if it can be worked out, will be amytal and spinal combined. (Applause).

"If the conquests useful for humanity touch your heart, if you are overwhemed before the astonishing results of electric telegraphy, of the daguerrotype, of anesthesia, and of other wonderful discoveries. if you are jealous of the part your country may claim in the spreading of these marvelous things, take an interest, I beg of you, in those sacred places to which we give the expressive name of laboratories. Demand that they be multiplied and ornamented, for these are the temples of the future, of wealth, and of well-being. It is in them that humanity grows, fortifies itself, and becomes better. There it may learn to read in the works of nature, the story of progress and of universal harmony, even while its own creations are too often these of barbarism, fanaticism, and destruction. Pasteur."

RUPTURED LIVER WITH RECOVERY*

By Oscar E. Bloch, M. D., Louisville.

The case to which I wish to call your attention is that of a boy, seven years old, who was struck by an automobile about 5 o'clock p. m. September 9th, 1929. The bystanders declared that the wheels of the car passed over the boy's abdomen. When I first saw him, about seven p. m., in consultation with Dr. E. L. Pirkey, he appeared to be in a condition of grave shock. Sweating of the forehead, grayness of lips, and weak pulse, were the dominating symptoms. The boy was taken to the hospital, and, upon re-examination, he constantly pointed to his left lower abdominal quadrant as the painful area.

A blood count showed: leukocytes 34,000, erythrocytes 3,500,000. Unfortunately the hemoglobin percentage was not estimated. Percussion seemed to show fluid in the abdominal cavity and he had general tenderness, more marked in the left lower quadrant, with considerable distention.

Operation about nine o'clock p. m., or four hours after the accident, showed the abdominal cavity filled with blood, and a rupture was found in the liver just where the right and left lobes were joined together. A mattress suture of chromic catgut was placed across the rupture in the liver, and the area was well packed with gauze.

The blood was removed from the abdominal cavity with a 20 c. c. Luer syringe, promptly citrated and strained through a gauze filter, and a transfusion of 500 c. c. was made. The lad was returned to bed and the transfusion completed there. The blood was kept warm by wet hot towels placed around the reservoir. There was no reaction from the transfusion. The patient was dismissed as cured after two weeks in the hospital, and has regained his flesh, strength, and color.

This boy would undoubtedly have died had it not been for the transfusion, which was very easily accomplished, and changed a bad risk into a prompt recovery.

I was interested in noting that, in Surgery, Gynecology and Obstetrics, October 1929, Dr. Lillian Farrar writes that the first account of auto blood transfusion in this country that she could find was made by White, November 29th, 1920. This patient also suffered from a ruptured liver; a transfusion of 500 c. c. of his own blood (citrated) was given, and he made a satisfactory recovery.

DISCUSSION

E. L. Pirkey: When I first saw this child he was in considerable shock, his abdomen was distended, and he complained of severe pain. Auto blood transfusion was made as stated by Dr. Bloch, there was no reaction afterward, and within three or four days after operation the patient was perfectly comfortable. He made a complete recovery.

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*Read before the Jefferson County Medical Society.

E. S. Allen: Dr. Bloch has reported a most interesting case, and he is to be congratulated on the outcome. I recently read in one of our medical journals an article in which the author described a case of rupture of the Fallopian tube in ectopic gestation, with marked hemorrhage. The blood was citrated and used for auto transfusion in the manner stated by Dr. Bloch. The patient made a good recovery.

Oscar E. Bloch, (in closing): The blood found in the abdominal cavity was liquid and was removed before sufficient time had elapsed for coagulation to occur. There was no clotted blood found when the abdomen was opened. The blood was withdrawn from the cavity with a 20 c. c. Luer syringe sodium citrate solution added, and the mixture kept well agitated. After filtering auto transfusion was made just as in any other transfusion of citrated blood.

Dr. Pirkey had no trouble in locating the medium basilic vein and transfusion was accomplished without untoward incident. There was no reaction and the patient recovered promptly.

Treatment for Tapeworm in Children—Karger points out that in children the expulsion of tapeworms is more difficult than in adults. Small doses of an anthelmintic extract do not kill the tapeworm. Consequently the medicament has to be given in comparatively large quantities. However, on account of the poisonousness of the anthelmintic extract the physician often hesitates to give children the large doses that are required. Because an effective laxative is of the greatest importance for the success of the cure, the author advises that the effectiveness of purgatives be tested on the child before the treatment proper is begun. Vomiting the anthelmintic extract is another difficulty which is often encountered. With a duodenal sound many of these difficulties can be avoided. The head of the tapeworm is generally in the upper part of the small intestine. If the medicament is introduced through a duodenal sound, it works immediately on the vital part of the tapeworm. This circumstance explains the good results of this treatment. The sound is introduced through the nose. At first it is rolled up in the stomach. After about four hours, it has entered the duodenum. As soon as this has been accomplished, from 5 to 6 gm. of an extract of aspidium is introduced through the sound. In order to facilitate the flow, the extract may be diluted with the same amount of lukewarm water. After that the purgative is given. In order to avoid vomiting it is advisable not to remove the sound immediately . .

CONTINUOUS SPINAL DRAINAGE IN A CASE OF PURULENT MENINGITIS*

By K. Armand Fischer, M. D., Louisville.

D. D., white girl, aged 13 years. Was readmitted to the surgical service of the Louisville City Hospital on September 30, 1929, with a diagnosis of "acute mastoiditis and meningitis."

Previous Admissions: (1) October 15, 1926. Patient was admitted with a diagnosis of "chronic otitis media and chronic mastoiditis, left." A simple mastoidectomy was performed. About a month later the tonsils and adenoids were removed. Patient left the hospital on December 14, 1926, with a draining sinus in the region of the left mastoid.

(2) October 5, 1927. She reentered the hospital with a recurrence of an abscess in the left mastoid region. This was opened and drained, with a prompt recovery.

(3) March 20, 1928. She re-entered the hospital for a radical operation of the left mastoid, which was attended by a prompt recovery.

(4) Present admission, September 30, 1929.

Present Illness: For several months patient had complained of earache and a discharging ear on the right side. A few days before entering the hospital she was hit in the back of the head while playing. Following this trauma she began to have severe headaches and pain behind the ear. Her condition rapidly became worse and she became semi-stuporous, and began to bite her lips, tongue and finger nails. For three days prior to admission she screamed and cried with pain, and for 24-hours previous to coming to the hospital had generalized convulsions. Her family stated that she had not slept for five days and had not taken food since the onset of present illness.

Previous History: Patient had "whooping cough" at the age of 6 years, which was followed by bilateral discharging ears for 3 months. "Measles" at the age of 10 years. "Chicken pox" at the age of 12 years; following the "chicken pox" both ears again started discharging and have continued to do so off and on since that time.

Physical Examination: On admission, patient showed the following positive findings:

(1) Axillary temperature 102° F.; pulse 130; respirations 30.

(2) Patient was screaming and muttering in delirium.

(3) There was marked retraction of the neck and head, with a bilateral positive Kernig's sign.

(4) The right pupil was markedly dilated

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*Read before the Jefferson County Medical Society.

and did not respond to light. The left pupil was small and reacted to light and accomodation. There was a well sustained nystagmus on looking toward the right.

(5) Ophthalmoscopic examination showed bilateral choked discs.

(6) The right mastoid region was red, swollen and tender to pressure. The right ear canal contained a thick, purulent exudate. The drum membrane was perforated.

(7) There was evidence of marked dehydration.

Spinal puncture yielded a purulent fluid with a pressure of 420 mm. of water. 120cc. of purulent fluid were removel from the puncture needle before the pressure was reduced to normal. Microscopic examination of the fluid showed 10,763 cells per cu mm. with 96% polymorphonuclears. Many gram-positive cocci were found in the smear. The culture revealed a gram-positive coccus which was thought to be a staphylococcus aureus.

A simple mastoidectomy was performed by Dr. A. L. Bass shortly after admission. Purulent material was found between the mastoid and the dura mater. A diagnosis of "extradural abscess" was made. For three days following the operation, patient was treated with repeated lumbar punctures and sedatives, liquid nourishment and large quantities of water by mouth and under the skin. Her condition steadily grew worse. She remained irrational and disorientated. She had incontinence of both urine and feces. Her axillary temperature fluctuated between normal and 104° F. On the fifth post-operative day, after a neuro-surgical consultation, continuous lumbar spinal fluid drainage was instituted through a laminectomy wound. I removed the laminae of the first lumbar vertebra, incised the dura and arachnoid, and inserted two fenestrated catheter drains into the subarachnoid space. A great amount of purulent fluid was drained off. The drains were anchored to the cut dural edges with interrupted silk sutures. Wound was closed loosely in layers with catgut. The patient was placed upon a large fluid intake, the minimal amount being 5,000 cc. per 24 hours; and the maximum amount 8,000 cc per 24 hours. This was given by proctoclysis, hypodermoclysis, intravenously and by mouth. For the first 24 hours following the operation, patient was quiet but still stuporous, and her temperature did not go above 101° F.

On the second post-operative day, patient regained consciousness and her headache was relieved, although she still complained of pains in the back and legs—particularly around the operative wound and at the point where the infusion needles were inserted. The discharge of spinal fluid was profuse. It was necessary to change the drainage pads every 2 hours.

By the third post-operative day all the opisthotonos and stiffness of the neck had disappeared and patient continued to be free of headaches. The neurological examination at this time was essentially negative except for the persistant choked discs.

On the sixth post-operative day, patient's general condition was markedly improved: she was reading newspapers and magazines; the spinal fluid drainage had lessened so that one catheter was removed—the other being left in place; her mouth temperature continued to fluctuate—going as high as 104° F. on some days.

Patient's general condition continued to improve until the fourteenth post-operative day, when she had a chill that lasted for fifteen minutes. Her temperature reached 101° F. following the chill. At this time the spinal fluid drainage was small, and blood culture was negative.

Between the fourteenth and twenty-third post-operative days, patient seemed to "loose ground" and had all the appearance of being septic: her temperature would fluctuate between normal and 102° F. to 103° F.; at times her mental condition would be normal, and at other times she would be irrational. Patient was tranfused with 500cc. of citrated blood. The laminectomy wound had ceased to discharge fluid, so the remaining tube was removed.

On the twenty-fourth post-operative day, spinal punctures were again resorted to. The spinal fluid pressure was 225mm. of water. Queckenstedt test was negative. Examination of the fluid showed 220 cells, 100% lymphocytes; smear and cultures were negative.

On the twenty-fifth post-operative day patient's temperature became normal and remained so until she left the hospital on the forty-third day following her laminectomy. Daily spinal punctures had been done during this time.** She was no longer incontinent of urine and feces, but continued to be quite irritable and "flighty" at times.

Patient's family took her out of the hospital against the advice of the attending physicians.

A follow-up visit was made to the patient's home one week following her discharge, and the report stated that she had made steady improvement since leaving the hospital.

On December 31, 1929, patient reported to the Neurological Clinic. Aside from evidence of nervous instability she was apparently in splendid health. She does not suffer from headache, dizziness or pains in the neck, back or limbs. The neurological examination was entirely negative. Opthalmoscopic examination showed normal fundi. Her appetite is good and she is steadily gaining weight. There is a peculiar blank expression present, which is not unlike that seen following encephalitis. Whether her emotional instability is the result of the meningeal infection or whether it is a hereditary characteristic, I am unable to determine.

COMMENT

This case is presented for the purpose of illustrating the benefits which occur from continuous cerebro-spinal fluid drainage in cases of "pyogenic meningitis." The most striking early change that occurred following the institution of continuous drainage was the relief of pain and headache.

Granting that the incidence of recovery even with drainage is relatively low, the procedure would still justify itself as a pain relieving measure.

TABLE OF SPINAL FLUID EXAMINATION**

Date	Glb'ln	Cell Count Per.Cu.M.M.	Polys	Lymphs	Smears	Cul're	R.B.C.
(1) Sept. 30	4-plus	10763	96%	4%	Gm. pos. coccus single & in pairs. Strap, aureus.	Gm. pos. coccus single & in pairs. Staphylo coccus aureus	
(2) Oct. 1		2,029					
(3) Oct. 3		4,882					Groosly Bloody
(4) Oct. 5		525	40%	60%		Neg.	
(5) Oct. 19						Neg.	
(6) Oct. 29	4-plus	220		100%	Neg.	Neg.	
(7) Oct. 30	4-plus	not counted					Grossly Bloody
(8) Oct. 31	2-plus	2,348	40%	10%		Neg.	50%
(9) Nov. 1	4-plus	780	85%	15%	Neg.	Neg.	
(10) Nov. 6	4-plus	60		100%		Neg.	
(11) Nov. 8	1-plus	196		30%			70%
(12) Nov. 13	Trace	44		100%		Neg.	None
(13) Nov. 15	1-plus	120		100%			
(14) Nov. 17	2-plus	56		100%			

DISCUSSION

A. L. Bass: When Dr. Fischer telephoned me about this case, telling me it was a case of meningitis with a spinal fluid under pressure with a cell count of 10,000, I didn't think there was any use hurrying to the hospital. Having been associated with these boys, Jelsma, Fischer and Edelen for so long, I know their ability and reliability.

I reached the hospital about 5:00 p. m. and the first time I saw this patient was on the operating table. She was unconscious, crying out incoherently, eyes fixed, thighs drawn up and head drawn back. I remarked that they had better call the undertaker and save time.

The other ear had been operated upon three times here in the City Hospital, the last time a radical with good results. The right canal contained a foul discharge indicative of chronicity. There was an absence of posterior half of drum. In the mastoid area there was a subperiosteal abscess, the mastoid cells had under gone complete disintgration due to necrosis from the chronic infection. Upon making the incision through the skin the pus was evacuated and an extradural abscess was found over and posterior to the sigmoid sulcus about 1 3-4 inches superior inferior by 1¼ inches antero-posterior. The dura was not normal but presented a great deal of fibro-plastic exudate due to the infection. The abscess was well walled off and the cortex was removed over its area. The mastoid antrum was quite large and contained about three to four cc. of unadultrated cholesteatoma. I took down the posterior canal wall rather freely and left the wound wide open. She should have had a radical operation done, but it was not justifiable at that time on account of her serious condition. I asked Dr. Fischer to do what he could for her. Do one or two lumbar punctures daily and draw off as much fluid as was consistent with safety.

To my surprise when I called up the next day she was still alive and when I called the third or fourth days and found that she was still with us, I came by to see her and found her conscious and could call her mother. "Holding on" like she was I did not want to leave anything undone. I asked Dr. Spurling to see her; and within a short while he called me saying they were going to do a spinal drainage; that he thought it was indicated.

You have heard Dr. Fischer's report as to the progress and outcome of the case. I saw this patient in the office this morning, she is mentally fairly alert; her mother says she does all the house work. The result illustrates the old saying "As long as there is life there is hope," and we should never give up.

R. Glen Spurling: This is the seventh case of pyogenic infection of the meninges which we have had to recover with continuous spinal drainage. In all, I believe there are something like twenty-five cases in the series, making a recovery instance of twenty-eight per cent. This, I believe, corresponds closely with the results reported in other clinics.

Pyogenic meningitis is usually secondary to infection of the mastoids or the accessory nasal sinuses. Obviously, it would be foolhardy to institute continuous drainage unless the focus of infection be eradicated. If such a focus can be reasonably well eradicated, then continuous cerebrospinal fluid drainage offers, I believe, by far the most efficacious form of treatment for the meningeal symptoms. This, however, is only the first principle involved in the treatment. The second and perhaps the most important phase is the administration of large quantities of fluid either by the mouth, rectum, subcutaneously or intravenously. The fluid intake should not be less than 5000 cc per twenty-four hours. We have demonstrated conclusively that a patient on a 500 cc fluid intake loses approximately 1000 cc of cerebrospinal fluid by way of the spinal fistula. In other words, on a high fluid intake, large quantities of organic and inorganic substances are eliminated from the body through the spinal fistula. This provides an avenue of escape for the products of infection by a continuous lavage of the central nervous organs.

George A. Hendon: Dr. Fischer has reported a very interesting and important case. Under circumstances such as he has cited, I have a great deal of confidence in blood transfusions repeated as often as demanded by the condition of the patient.

I am quite sure that in giving water, the physiological mineral solutions included, that reactions do not come from the fluid used, but from the manner of its introduction. In the work I have been doing along this line I have given as much as 1000 cc in five hours without causing any reaction, or 5,000 cc daily. The fluid is given by continuous introduction at the rate of so much per hour and continued for twenty-four hours or more.

Dr. Spurling spoke of the amount of fluid excreted by the spinal membranes. I have made quite a number of observations on elimination by the kidney, during forced fluids and find the urine excreted under these circumstances is always approximately one-half of the fluid taken. If you give 5,000 cc the kidneys will eliminate just about half that amount. In quite a large series of cases I have found that rule to hold good. I was glad to hear Dr. Spurling speak of elimination by the spinal canal. Of course we know if there is poison in the system dilution of that poison by fluid is one of the best means of treatment, because if the poison is diluted the emunctories can handle it; whereas this cannot be done if the poison is concentrated. Gradual administration is a matter of extreme importance, because the system can then take care of the fluid without functional disturbance.

K. Armand Fischer, (in closing): At the time we gave this patient the blood transfusion her leukocyte was 8,200, and we thought she might have blood stream infection; but the blood culture was negative. Her general condition after the first spinal drainage was very good. Later she apparently became irrational at times, and complained of headaches at night. After the drainage tube was extruded we found that spinal puncture only afforded relief for a time. Toward the last of her stay in the hospital, her mother and father remained with her constantly. This was very unsatisfactory as the child could not be properly controlled in the presence of her parents. I told the father one day that if the child was expected to get well she must be left to our care; otherwise she would have to be dismissed from the hospital. The parents remained a few days longer and were then permitted to take the child home. She was a typically "spoiled" child.

As to the mentality of the patient: For a time she seemed to be very dull and did not appear to know what was going on about her. Later she seemed brighter, but even now at times when told to do something by the parents she does something else and pays no attention to them. She is spoiled and has to be humored to get her to do anything. These are the only things we find wrong with her at present. She comes to the hospital for observation from time to time. She was expected to be here tonight for exhibition, but failed to appear.

SELF MEDICATION WITH BAD RESULTS—DIVERTICULITIS*

By J. Rowan Morrison, M. D., Louisville

Mr. C. B., aged 70, merchant, was seen by me February 24, 1929. He had been a very well man and his history was not important. Had played golf and enjoyed life.

Several months before I saw him he began to note a little "sluggishness of the bowels" (not actual constipation), and some of his friends recommended that he take bran. This he began to do regularly once or twice a day without any particular effects for about a month after he began its use. Then he noticed pain in the lower abdomen, some straining at stool and finally two weeks before I saw him, he was having "loose bowels" with ten to twenty small movements a day. This consisted of some fecal matter with a great deal of mucus, occasionally tinged with blood.

Examination showed that he was tender over the sigmoid and ascending colon and quite spastic. Several physicians had seen him and thought he might have cancer of the colon. I asked for an x-ray examination. The picture is presented; showing many diverticulae of the sigmoid and descending colon.

He was put to bed on limited mucoid diet and soda enemas administered three times a day and mineral oil given three times a day. His painful movements and discomfort soon ceased and he began to have semi-solid movements after about two weeks. I called him on the phone several days ago and he told me that he has had no more discomfort and does not need any sort of laxative at the present time and that he has followed my instructions to use a soft diet with a considerable amount of fat.

COMMENTS

Here is what I think must have been an old diverticulosis which was not causing any particular trouble until the individual began to fill his diverticula with bran. Then he had all the symptoms of a diverticulitis including pain, spasticity, slight fever, etc. This was relieved when bran was discontinued and such treatment as to try to remove the residue was applied. The patient has remained well and free from symptoms on a high fat diet and mucoid inconsistency.

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*Read before the Jefferson County Medical Society.

Whether self-medication for anyone's condition is worse, or taking the advice of non-medical friends, is a debatable point. Both produce very severe punishment to the individual in selected cases. And if possible people should be educated to be more careful in accepting the advice of non-medical friends when the patient is under the care of a good physician. For instance, not so long ago it became a fad for people to relieve the bowel by taking a quart of hot water with a teaspoonful of salt before breakfast. This certainly seems simple enough to an ordinary individual, yet, I had one lady who had nephritis with marked salt retention; when she tried this very simple plan for about a week, she "puffed up" like a bloater and gained seven or eight pounds in weight, which was due to salt retention. My advice to her was, if she must take salt, that Epsom salts was more simple, at least in her case, than sodium chloride.

Caesar Chose Health Food—Helvetian Cheese—Without a dietitian to prescribe his food habits, Julius Caesar chose a health food—"Caseous Helvetius," Helvetian cheese. Wise as he was in the ways of conquest, Caesar knew no more than others of his time about vitamins. In ancient days, however, the diet of the Olympian athletes consisted of fresh cheese, dried figs and wheaten porridge.

It is possible that Caesar may have known the facts assembled several decades after his death by Pliny, the Elder, and Pliny, the Younger, who wrote of Zoroaster, 1000 B. C., living for twenty years exclusively on cheese. He had no nutrition experts as Dr. Mary Swartz Rose, to plan his dietary. As to the healthfulness of cheese, she writes: "Half a pound of cheese will provide sufficient protein of the best quality for an average man for a day and fully one-third of his total calories. The simple addition of a pound of whole-wheat bread and a couple of pounds of fruit will result in a diet adequate for an adult in every respect and at a most moderate outlay of money and effort."

Since good cheese is now both plentiful and low in cost, the National Dairy Council recommends a general return to the cheese-eating habits of these early ancestors. A half pound of cheese provides all the protein needed by an adult for one day, also furnishes more than one thousand calories.

TRAUMATIC CYANOSIS. CASE REPORT*

By D. P. Hall, M. D., Louisville.

The surgical literature on traumatic cyanosis, or asphyxia, leads one to believe that it is a very rare condition. However, it is our opinion that traumatic cyanosis is of fairly frequent occurrence, and that the paucity of literature on the subject is due: (1) to a small proportion of cases not being diagnosed as such, (2) that a number of diagnosed cases are not reported.

We feel justified in reporting the following case, because of the comparative scarcity of literature on the subject, and the youthfulness of the patient, which is rare in the cases recorded.

H. W., white, male, aged 11 years, was admitted to the Sts. Mary and Elizabeth Hospital September 16th, 1929, three hours after being injured in an accident in the country. There is nothing of interest in the family or personal history, except that the patient's left leg was amputated between knee and ankle about seven years. ago.

The patient stated that he was riding in an automobile which overturned pinning his feet, legs, pelvis and abdomen as high as the umbilicus, between the machine and the pavement. He also stated that he suffered compression to such a degree that he thought his rectum was protruding. He was pinned under the car for three to five minutes.

Physical examination revealed a marked reddish-purple discoloration over the head, face and neck, extending to the clavicular line anteriorly and to the spine of the scapula posteriorly. He had marked bilateral subconjunctival hemorrhage with blurred vision. Pulse 140, temperature subnormal. He complained of severe pain in pelvis, but his urine was not bloody and there was no abdominal distension. He was clearly conscious and gave a very definite, clear-cut description of his injuries and symptoms.

Laboratory findings: Blood and urine normal. Roentgen-ray examination, made by Dr. J. C. Bell, was as follows: Films of the pelvis show a fracture of the ilium near its attachment to the sacrum. There is considerable separation at this point with very little displacement. Both horizontal and descending rami of the left side of the pubic bone are fractured. Some displacement is present.

Films of the dorsal and lumbar vertebrae show nothing characteristic of fracture. The body of the fifth lumbar is very narrow. It might possibly be fractured.

The patient was given routine treatment for shock, and the usual treatment for fracture of the pelvis. His blurred vision disappeared after the second day in hospital. The reddish-purple, doll-head-like discoloration of the head and neck gradually disappeared and had faded by the eighteenth day, exhibiting none of the chromatic changes noted following subcutaneous hemorrhage, showing that it was not due to extravasated blood. The bilateral scleral discoloration faded after three weeks. The patient has made an uneventful recovery from the traumatic cyanosis, and also from the fracture of the pelvis.

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*Read before the Jefferson County Medical Society.

As to treatment, there was none except pacifying relatives and friends and reassuring them death probably never occurs directly from traumatic cyanosis, but is due to associated injuries.

In closing, we would repeat that traumatic cyanosis is much more common than surgical literature indicates.

THE TREATMENT OF CHRONIC DEFORMING ARTHRITIS OF THE EXTREMITIES BY SYMPATHETIC GANGLIONECTOMY, REPORT OF TWO CASES*

By R. Glen Spurling, M. D., Louisville.

Rowntree and Adson (1) in 1927 reported a case of polyarthritis of the lower extremities treated by excision of the second, third and fourth lumbar sympathetic ganglia. The improvement in the general and local conditions of this patient was so striking that they were encouraged about two years later to sympathectomize the upper extremities of the same patient for the same condition. Similar beneficial results were obtained in the hands and arms as had been observed in the legs and feet.

It was my privilege while on a visit to the Mayo Clinic last spring to examine this patient two and one-half years after the lumbar and a few months after the cervico-dorsal sympathectomy. The result impressed me as being one of the most remarkable that I had seen in my experience in medicine.

Opportunity to study two cases of chronic infectious polyarthritis was soon presented to me through the courtesy of the staff and the management of the Kosair Crippled Children's Hospital. I shall first present the essential details of the histories of these two cases and later demonstrate the patients themselves.

Case 1. J. H., male, aged 4 years. The family history is irrelevant. The past history is negative except for an attack of measles at the age of two years.

Present Illness: In March, 1928, the mother first noticed swelling in the finger joints. There was some local redness and considerable pain in the swollen joints. The patient was examined by Dr. Barnett, of Anchorage, and a diagnosis of acute rheumatism was made. During the ensuing month the elbows, shoulders, knees, hips and ankles became progressively involved. By this time, he was unable to use his hands even to feed himself. He became unable to walk in December, 1928. The tonsils were removed in October, 1928. He came under the care of Dr. Philip Barbour in January, 1929. A blood culture taken by Dr. Barbour showed a growth of diphtheroid bacilli. A vaccine made from this organism was administered with some relief of pain, although there was no recession of joint swelling and the accompanying disability. He was referred to the Kosair Crippled Children's Hospital by Dr. Orville Miller in April, 1929, for treatment. On his admission to the hospital, the physical findings disclosed fusiform swellings about all of the joints of the extremities most marked at the wrists, knees and ankles. The joints were very painful on active and passive motion. Otherwise the physicial findings were negative. After admission to the hospital, the temperature ranged from normal to 99.6° F.; urine negative; leucocytes 8,400; erythocytes 3,700,000; blood Wassermann negative; stool negative. According to the nurse's notes there were frequent night cries and any movement of the extremities caused pain. In May, 1929, a piece of tissue was removed from the joint of the third finger of the right hand for culture. No pathogenic organisms were found by the Allen Laboratory. The vaccine treatment that had been started by Dr. Barbour was continued. X-ray examination showed the typical changes of infectious arthritis.

At my first examination in June, 1929. I found the patient to be considerably emaciated. There were marked fusiform swellings involving the wrists, knees, elbows and ankles. There was some enlargement of all the phalangeal joints. The wrists were held in extreme flexion and the fingers could only be used with difficulty in this flexed position. Any attempt to extend the wrists was painful. The wrists gave one the impression of being ankylosed when forced extension was attempted. No range of motion was possible at the elbow joints. The shoulders could be moved only with difficulty. The knees were likewise immobile. There was more flexibility of the ankles than at any other of the large joints. The skin of the extremities was moist, cold, clammy and pallid. The difference in temperature between the body and the extremities was readily appreciated by touch. (Motion picture demonstration of these deformities).

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*Read before the Louisville Medico-Chirurgical Society.

On July 1, 1929, bilateral cervico-dorsal sympathetic ganglionectomy was performed. The inferior cervical and first and second dorsal ganglia with their intervening trunks were removed. Within a few minutes following the excision of these ganglia the change in temperature of the upper extremities was apparent. The hands and the arms including the shoulders were warm and dry; in fact, they felt like normal hands. The absence of sweat also involved the entire face and neck. A typical bilateral Horner's syndrome was produced. Four days after the operation, active and passive movements could be performed without pain. On the tenth day following the operation the patient was able to feed himself for the first time in over a year. Voluntary movement of all the joints slowly returned. The wrists which had been apparently ankylosed are now being moved voluntarily in all directions. There has been a very apparent decrease in the swelling of all the joints of the upper extremities.

On September 10, 1929, the second, third and fourth lumbar ganglia on both sides were removed. The same changes were noted in the legs as had been observed in the arms as regards warmth and dryness of the skin. The pain in the lower extremities disappeared within a few days. The range of motion both active and passive has gradually increased. At the present time the motion at the knee joints is restricted because of contractures of the tendons of the ham-string group of muscles. These contractures are being treated by Dr. Miller by traction. The swellings about the knees are receding.

Skin temperature studies before and after sympathectomy are recorded in Table 1.

TABLE I.

	Date	Room Temp.	Rt. Hand	Left Hand	Rt. Foot	Left Foot	Mouth Temp.
Before Operation	6-30-29	27.5	33.6	33.4	33.6	33.6	37
After Operation (Cervico-Dorsal and Lumber)	10-17-29	21.6	35.6	35.8	35.8	36	36.6

The improvement in the general condition is striking. There have been no night cries since the original operation on the dorsal ganglia. He is eating well and is all around a more happy and contented child than he was three months ago.

Case 2: L. L., male, aged 7 years. The history on this case is very meagre due to the fact that he was referred from Henderson, Kentucky, by the Crippled Children's Commission, and we have been unable to get in touch with his parents for a complete history of his case. According to the information given by the district nurse the arthritic swelling started six months before he entered the Kosair Hospital. Apparently, the onset was sudden and was associated with high fever, fast pulse and prostration. He was treated during the acute stages of the disease at the Henderson, Kentucky, Hospital. He was referred to the Kosair Hospital by Dr. Barnett Owen. Physical examination on admission showed enlarged, infected tonsils, considerable nasal discharge and uniform swelling of all the joints of the upper and lower extremities. X-ray films taken on admission showed a typical picture of infectious arthritis. Temperature ranged from normal to 99.6° F.; urine and erythrocytes normal; leucocytes 13,200 with 69% poly morphonuclears; blood Wassermann one plus; Kahn precipitation test one plus; stool negative. According to the hospital record he complained constantly of pains in the joints and was subject to night cries. Tonsils were removed on July 10, 1928. He was treated with Alpine light and salicylates. His general condition on admission was poor in that he was markedly emaciated and took little interest in his surroundings. Voluntary movement of all the joints was markedly restricted. On my first examination in June, 1929, I found essentially the same conditions present as listed in the first patient described, namely, painful fusiform swellings of all the joints of the extremities with marked limitation of motion and a pallid, cold, clammy skin. Moderate stiffness and limitation of motion were observed in the cervical and lumbar spine. On July 1, 1929, the inferior cervical, first and second dorsal sympathetic ganglia were removed bilaterally. The circulation and temperature of the upper extremities promptly improved. The skin of the arms was warm and dry. Relief of pain came promptly. Active and passive motions in the upper extremities soon became free and nonpainful. At the present time there are no signs present to indicate the extent of the arthritic process in the upper extremities other than moderate swelling about the joints of the hands and wrists. Permission for the lumbar sympathectomy was just recently obtained and has not as yet been done. This case is an excellent example of the temperature changes occurring after sympathectomy. At the present time the arms and hands are dry and warm even at low environmental temperatures, while the legs remain cold and clammy even though the temperature of the environment is high. Complete skin temperature studies are given in Table II.

TABLE II.

	Date	Room Temp.	Rt. Hand	Left Hand	Rt. Foot	Left Foot	Mouth Temp.
Before Operation	6-30-29	27.5	33.6	33.3	33.3	33.3	37
After Operation (Cervico-Dorsal	10-17-29	21.6	36	36	25	24	37

The every day presence of partially or completely disabled victims of chronic arthritis is ample proof that our usual methods of treatment are far from satisfactory. I do not mean to propose by any means that sympathectomy will ever be a cure-all for all forms of chronic arthritis. I do believe, however, that there are certainly a small group of chronic arthrities which may be benefited and some even arrested or cured by this procedure. Before attempting to discuss what cases are suitable subjects for sympatheetomy it might be well to review the known changes that occur in the limbs following cervico-dorsal and lumbar sympathectomy. Most all observers agree that the following changes occur with great regularity:

(1) There is an abolition of the vasoconstrictor mechanism to the vessels of the upper and lower extremities following cervico-dorsal and lumbar sympathetic ganglionectomy. This is manifested by a well marked increase in the skin and deep temperatures of the soft parts.

(2) There is a change in the sweating mechanism inasmuch as a sympathectomized limb remains constantly dry even in high temperature environments.

(3) There is an abolition of the pilomotor mechanism. Other effects have been mentioned, particularly a reduction of the plastic tonus of the muscles, but these are still controversial.

Assuming, then, that all the beneficial changes following sympathectomy are due to an increased blood supply to the part, it at once becomes apparent that only those cases of arthritis associated with pale, cold, clammy extremities may be suitable for treatment by sympathectomy. This concept gives rise to a new theoretical consideration of the probable etiology of this type of arthritis. It is within the range of probability that the articular manifestations result from a deficiency of blood supply due perhaps to the action of certain toxins upon the blood vessels themselves or nerves supplying these vessels.

From the standpoint of the patient, the most improved change that occurs is a relief of pain. This change occurs immediately and may be expected to be more or less permanent. In Rowntree and Adson's case, the patient has been almost free of pain for a period of three years. In these two cases, the relief of pain has continued since the institution of the operative procedure. The second most striking improvement has been an increase in active and passive motion. This is perhaps directly related to the amount of pain in and around the joint. The third and least striking improvement has been the decrease in joint swelling.

The claim has been made by some that these beneficial symptoms following sympathectomy are only temporary. I believe that this idea originated from the days when rami-section was the procedure being used for the relief of spasticity. So far as our present knowledge goes, we should not expect regeneration of the sympathetic connections, providing the ganglions with their intervening trunks are excised, any more than we should expect regeneration of certain portions of the central nervous system. However, this is a matter that can only be proven by time. Supposing that vaso-dilatation occurring in these cases is only temporary. If it persisted over a period of time sufficiently long to allow a recession of the process, then the procedure has served its purpose.

It is unnecessary for me to state that work of this sort is still in the experimental stage. Cases must be carefully selected and accurately observed and recorded. Only after a large series of cases have been studied can we correctly evaluate the beneficial effects. Certainly, we cannot be seriously criticized for experimenting with a disease which has heretofore been considered to be a hopeless condition.

DISCUSSION

W. Barnett Owen: This is a subject in which we are greatly interested, but about which we know very little. My attention was first called to it on one of my trips to the Mayo Clinic. Dr. Adson was making some investigations along this line, but at that time he had operated on only one patient. A woman was brought to the clinic from a southern state; she was carried in a chair, her limbs were flexed, hands and fingers badly contracted, elbows stiff, she was unable to elevate her shoulders, her neck was involved, and she could not rotate her head. By lumbar sympathectomy she was made free from pain so far as her lower extremities were concerned, and the result was much more striking than Dr. Adson's fondest hopes had anticipated. The woman was sent home much improved except that her upper extremities remained the same. She later returned to the clinic and dorsal sympathectomy was performed with satisfactory result.

One or two cases are not conclusive by any means, but we are dealing with a disease for which no satisfactory remedy has yet been found, and I believe we are justified in resorting to any measure which promises relief. We realize how hopeless these cases are, and when everything else has been tried and no benefit obtained, it seems to me that anything which offers relief is indicated, provided we can be assured that no harm will result. The few cases I have seen, and particularly the two shown by Dr. Spurling, have convinced me of the value of sympathectomy in the treatment of this disabling disease, regardless of whether the results are temporary or permanent. Everything else had been tried with no benefit until the operation was performed. One of the children was unable to feed himself prior to operation which was performed three months ago; he is now able to feed himself without difficulty, and certainly the operation has done him no harm. His trunk and hands are warm and he is comfortable. His muscles before operation were spastic, contracted, painful; they have become warm, flaccid and mobile. I cannot see any disadvantage in the operative procedure. Of course all these cases must be treated by massage, passive and active motion to gradually re-educate the muscles.

We realize that the operation undertaken in these cases is more or less in the experimental stage, but it seems justifiable in view of the fact that nothing else has been productive of benefit. In the cases we have seen thus far, the operation seems a worth while procedure. I have encouraged Dr. Spurling in the surgical treatment of these cases. He has adopted a suitable technique which he has executed beautifully with the results he has shown us, and thus far the procedure has certainly been worth while. I am at least in favor of trying it in these cases in which everything else has been tried and failed.

Morris Flexner: I want to congratulate Dr. Spurling on the results he has obtained in the two patients exhibited. The utter hopelessness of these cases is well known, no remedy having been found that will promise relief, hence we must welcome this new procedure.

The physiological and pathological aspects of these cases are not clear to me, in other words the exact mechanism which results in the marked clinical improvement. I would like to ask Dr. Spurling to tell us in closing what the pathological examination of the extirpated ganglia has shown.

John J. Moren: I have had no experience whatever with cases such as Dr. Spurling has reported. I can only refer to what I have noticed in the literature. I asked the essayist a moment ago whether there was any atrophy of the shoulder group of muscles. I think I have noted that such atrophy has been reported in cases of Raynaud's disease and other instances where they have resorted to section of the sympathetic nerves. I have noticed also that Horner's syndrome does not improve. Some of the patients have had ulcer formation.

Judging from my own impression in the matter, it seems to me the cases shown by Dr. Spurling are infectious arthritis. If I had infectious arthritis I believe I would resort to something else than surgery. If I had arthritis deformans then I believe I would consent to surgery of the sympathetic system.

Philip F. Barbour: I am very much interested in this subject and am quite familiar with the first case reported by Dr. Spurling as the child was under my care for some time. The little fellow was in great pain all the time and any attempt to move the joints increased his suffering. The relief of pain alone from this operation even if without any benefit to the joint lesions renders the procedure justifiable. I was under the impression that this boy's trouble was infectious arthritis and tried to locate the focus of infection. His tonsils had been removed and his teeth were normal so far as I could ascertain. The only spot I could find that might have been a possible focus was the first phalanx of the ring finger which seemed to have been the point where pain and swelling first started. That was about a year before the child came under my observation. I had Dr. Allen make a blood culture and he reported finding a pseudo-diphtheriod bacillus. I thought if there existed a blood stream infection it would be well to try the administration of autogenous vaccine. This was continued for two months with, I think, some relief of pain. He was certainly more comfortable after the use of vaccine.

I could not see any future for the little chap and suggested that he be placed under the care of an orthopedic surgeon. The joints were swollen, stiff and painful and there was absolutely no future for him unless something could be done that had never been done before in such a case.

I believe that vaccine therapy was not only indicated but was valuable in arresting the progression of symptoms. Other joints were becoming involved before vaccine was given. Since that time no additional joints have become affected, so I think the autogenous vaccine was beneficial to the little chap.

I cannot quite understand how the operation upon the sympathetic ganglion is going to permanently relieve this boy. It has given him symptomatic relief so far as pain is concerned and there seems to be less swelling of the joints, but I cannot understand how removal of the sympathetic ganglion is going to do anything toward removal of the focus of the toxines. I suggested to Dr. Miller that the first phalanx of the finger where the infection seemed to have started be opened to see if the type of infection could be determined. He opened this phalanx and removed some grumous looking sterile pus from which a culture could not be obtained.

As Dr. Owen has said, we do not know how to relieve these cases, and if sympathectomy gives relief to pain, as it has done in this instance, the operation is entirely justifiable even if there is no permanent benefit to the joints that are swollen or a stop to the progression of the disease to other joints.

J. A. Flexner: I think Dr. Spurling is to be congratulated on the results obtained in the two cases reported. If we will look backward over certain features in these chronic arthritides, we will find that heat has been productive of benefit and in some cases a successful treatment. Undoubtedly we have had under treatment other chronic affections about the extremities where severe hyperemias have been of benefit. If we take into further consideration the benefit that follows improvement in the blood supply, whether it is due to better functional activity on part of the heart or whether due to some condition of the capillaries, we get better blood to the affected joints and a better heat mechanism so the child is relieved of symptoms. We know what cold does to the rheumatic individual and the benefit that is derived from the application of heat.

Arthritis is an exceedingly ancient disease. I find that perhaps what we now understand as arthritis deformans or infectious arthritis has been discovered in the skeletal structures of those gigantic lizards which existed in the world half a million years before man came on earth. Many of the ancient Egyptain works contain descriptions of the very type of arthritis discussed here tonight. It is a disease which I think can by proper means be more or less reproduced in selected animals. I believe that is where you will have to work in the solution of this problem—you will have to reproduce the disease in the lower animal and treat it with the same or a similar process as the children and note results. Your experiments will then be significant, if not entirely confirmed.

Louis Frank: First I want to compliment this society and congratulate Dr. Spurling on his most excellent paper and the splendid work he has been doing. I am particularly interested in this subject because of conversation which I had with Dr. Spurling a year or two ago and which I believe had something to do with his undertaking this particular operation.

It was my good fortune about two years ago to hear Dr. Adson read a paper on the treatment of Raynaud's disease by ganglio-sympathectomy, rather than arterial sympathectomy which he had been doing previously and which had not proven efficacious and permanent. He expressed the opinion at that time that in certain selected cases of rheumatoid arthritis ganglio-sympathectomy would probably be beneficial. He cited the case Dr. Owen has mentioned. I understand that this young woman was in a hopeless condition at that time, but after the first operation she was able to walk about. At the time I heard the paper read, which I related to Dr. Spurling, I suggested that he correspond with Dr. Adson and obtain his views.

Since that time Dr. Adson has operated on seven other patients of this type. As I understand his recent report which was made before the Clinical Congress of the American College of Surgeons in Chicago last week, these cases should be very carefully selected and the most advantageous cases, he said, were in young individuals. Before operation the patient should be subjected to the most vigorous treatment, particularly by means of heat applied by some of the methods which we have now for the treatment of diseased and painful joints. All the patients Dr. Adson has operated upon have been subjected to this treatment very vigorously over variable periods of time. Also these patients must be tested before they are operated on as to vasomotor dilatability. We know, of course, since the work of Claude Bernard just what section of the sympathetic does. It is not the result of better circulation that we have improvement in the sweat mechanism. That is not really an improvement but is the direct result of division of the sympathetic. I recall a patient seen several years ago who claimed to have had anidrosis extending over a long period of time. Tests with jaborandi proved the truth of the patient's statements, and recalling Claude Bernard's experimental findings after section of the sympathetic, we realized the trouble was in the cervical sympathetic.

Dr. Adson believes all these cases should be tested as to vasamotor dilatability and as to its action in increasing the surface temperature, as upon the index thus obtained by comparison to the pervious temperature locally and of the body generally the decision as to operation in a measure depends. The vasomotor dilatability test is made by injection of typhoid vaccine in large doses. The temperature soon begins to rise and shows a definite relationship locally. If there are any exceptions to this rule he believes the patients are not suitable subjects for sympathectomy. He further believes the operation is still in the experimental stage, but in the group of cases he described the work was justifiable because there was nothing else that would relieve these patients. Whether or not the results will be permanent we are not yet in position to say. What will be the future outcome of a patient who has been sympathectomized we do not know. One gentleman in discussing Dr. Adson's paper called attention to the results in animals that had been sympathectomized. These animals, so long as they lived in limited surroundings, got along all right; but when turned out to take their chances with other animals it is a question whether they might not lose their fight for existence. What the result will be in individuals who have been extensively sympathectomized there is some doubt. Even if this work is still in the experimental stage, I, like the other gentlemen who have spoken, can see no reason why this operation should not be performed in the effort to relieve what we know is absolutely a hopeless condition. My impression is that no cases of infectious arthritis were included in Adson's series, they were all of the chronic rheumatoid type. His youngest patient was 16 years old.

I again want to congratulate Dr. Spurling and express my appreciation not only of the fact that he is alive to the possibilities of neurological surgery in the type of cases under discussion, but also for the brilliant work he has done.

William E. Gardner: I congratulate Dr. Spurling on the striking results secured in the two cases he has presented. As I understand it, the purpose of sympathectomy is to relieve the vaso-constriction by producing more or less hyperemia in the joints that are affected. We do not believe there is any disease of the sympathetic system itself or the ganglia, but by doing sympathectomy we may bring about permanent hyperemia which is more beneficial than the application of heat by other means because it is generalized to a rather marked degree.

I was wondering how much effect this much paralysis of the sympathetic nervous system may have on the action of the autonomic sympathetic, and whether or not there is going to be any tendency to produce the so-called autonomic imbalance. The actions of the sympathetic proper and the autonomic sympathetic are more or less antagonistic to each other, one having a tendency to stimulate and the other to inhibit.

I would like to ask Dr. Spurling if he noticed in the one case in which he has performed cervicodorsal sympathectomy and has not done lumbar sympathectomy, whether there has been a compensatory mechanism to the extent that the lower extremities show a lower temperature than prior to the operation? In other words, whether or not paralyzing this much of the upper portion of the sympathetic caused a reduction in temperature of the lower extremities.

This subject is of great interest and we will look forward to further investigations along this line. It appears to be a fertile field for study by some of our best physiologists, as well as by the neuro-surgeons who seem most interested in the subject just now.

Frank P. Strickler: I have been very much interested in cervical and lumbar ganglionectomy for arthritis and spastic paralysis, especially in the reports from the Mayo Clinic. Ganglionectomy is one of the oldest operations performed on the sympathetic nervous system being first performed in 1896 by Jonnesco and later by Jabohlay. I believe the method of approach to the second thoracic ganglion and stellate ganglion was devised by Henry some years ago; this being the same approach now employed at the Mayo Clinic. Therefore, quite a bit of clinical evidence has been compiled on the ultimate results after removal of the second thoracic ganglion and the cervico-thoracic ganglion (stellate ganglion). We have reason to believe that the heart receives accelerator fibers through the cervical and thoracic sympathetic system as well as through the vagus. Therefore, it seems to me that we cannot ignore the possibility of a lack of balance being created in the heart by the destruction of at least a portion of the accelerator fibers. In a fair proportion of arthritis cases we already have an impaired heart and whether the removal of at least a portion of the accelerator fibers is advisable in this type of case, to my mind, will require further study and observation. It is quite true that the removal of the stellate ganglion has been used in the treatment of angina pectoris merely to relieve pain, but, more recently, the injection of the first, second and third dorsal nerves has been employed and there are some cardiologists who question the advisability even of this procedure. We further know by accumulated evidence that in the case of cervical and thoracic ganglionectomy we may have a permanent Horner's syndrome. That marked permanent atrophy of the shoulder muscles may take place. Also, that a very annoying and painful hyperesthesia may persist.

The statement has been made that the entire sympathetic nervous system has been removed from animals without marked ill-effects to the animal. I question whether any man ever has, or ever will, remove the entire sympathetic nervous system of any animal. There is still much to be learned of the sympathetic system and until we know more about this complicated system, it would seem advisable to be a little cautious.

Even if we should be successful in treating arthritis of the extremities by ganglionectomy, what about the spine? It is practically impossible to treat arthritis of the spine by ganglionectomy.

By personal communication from the Mayo Clinic, I learn that the best results have occurred in those cases of polyarthritis in which no bone changes have taken place.

Dr. Allen B. Kanavel informs me by personal communication that he is of the opinion that most cases of arthritis which are suitable for ganglionectomy are really reflex vascular lesions.

Ganglionectomy in the treatment of spastic paralysis, I find has not given great success in the hands of our most experienced neuro-surgeons. Although, it may possibly be of some slight benefit in a very small group of carefully selected cases, I doubt if the results will be better than those obtained by proper orthopedic measures.

I am of the opinion that every means of treatment should be exhausted before ganglionectomy of the sympathetic system is done. I believe every case should be first treated by the Bear method, Dr. Bear has reported several hundred cases treated by dissecting out lymphatic glands under the most rigid surgical asepsis, making an autogenous vaccine and treating the patient with it, overcoming contractures and other deformities by orthopedic measures. Dr. Bear's standing in the profession is such that his case reports cannot be ignored. He has obtained good results. I have used Dr. Bear's method in several cases with very striking results.

In my opinion, the physiology and anatomy of the sympathetic nervous system still requires a lot of study. We do not know all there is to know about it by any means. If this is correct, the surgery of the sympathetic nervous system is still in the experimental stage, time and results will ultimately prove surgery's value.

J. Rowan Morrison: I am very much interested in this subject and want to congratulate the society and thank Dr. Owen for inviting us to the Kosair Hospital for Crippled Children to hear Dr. Spurling present these cases. Dr. Spurling has covered the subject thoroughly, and if I had a child with this disease I think the operation described would be undertaken. These cases are absolutely hopeless so far as any other method of treatment is concerned, and these children have shown marked improvement since the operation. I question whether any harm has been done by sympathectomy in these cases, and we may learn something that will be of value when we see what happens to these children.

I think we are to be congratulated that we have a man in Louisville who has nerve enough to undertake this new procedure in the attempt to improve the condition of these disabled and deformed children. I am delighted to have heard his paper and will be interested in knowing what happens in the future. I am inclined to hope that something of value will be developed by the operative procedure described, despite adverse reports that we have heard.

J. Garland Sherrill: When all the facts in these cases are taken into consideration, due credit must be accorded Dr. Spurling for his work as he has accomplished something. The first thing is that the severe pain was relieved, when it was not relieved by any method used prior to this treatment. Second, the improvement is greater in the child upon whom both upper and lower ganglionectomy was performed, and less in the one who had only the upper ganglion removed. There is quite a difference in the benefit derived between one and the other. It does not make any difference to these children whether the operation produces some endocrine imbalance, they will be placed in position where they can use their joints and muscles when pain is relieved, and they can develop as other children do and live in comparative comfort.

Taking these things into consideration, the work of Dr. Spurling may be epoch-making in the domain of neurological surgery. All new propositions in medicine and surgery are received with skepticism by the profession, and naturally progress is usually slow. Dr. Louis Frank and myself can recall the time when hospital gangrene, traumatic gangrene and so-called childbed fever prevailed everywhere, when all forms of infection were common, when it was believed every wound must contain laudable pus before healing and recovery could occur. When the theory of germ life came into being, when Pasteur startled the world by his discoveries, and when Lister wrote his book on asepsis, we almost came to blows in discussing the matter before this society. Every new theory properly applied and proven makes for advance in surgery and medicine. I think this is a memorable occasion, and I want to add my praise and commendation of Dr. Spurling's original work. Whether it is a success temporarily or permanently, it shows our efforts at progress along certain unexplored lines. Personally I think it marks a distinct advance in medicine and surgery.

Samuel G. Dabney: I want to congratulate Dr. Spurling on the results secured in these two cases. These children have been greatly benefited, that seems to me to be the crucial test, what further is going to happen to them is merely conjectural. They have suffered no harm from the operation and have received a great deal of benefit.

There are three symptoms about the eye that may occur after sympathectomy: (1) slight ptosis, (2) slight sinking-in of the eyeball, and (3) a pupil slightly smaller than its fellow. These symptoms are not serious. Test may be made by a drop of cocaine. This agent dilates the pupil because it stimulates the dilator muscle of the pupil, and of course that is supplied by the sympathetic nerve. Cocaine will not dilate the pupil when there is paralysis of the sympathetic nerve going to the eye.

These cases are not very rare, I have seen several of them. When one eye is affected you can tell one from the other; in bilateral cases you cannot compare one with the other. The slight ptosis, slight sinking-in of the eyeball and a slightly contracted pupil are after all of no special importance; they are no contraindication to operative measures.

Franklin Jelsma: I want to express my appreciation of being invited to this meeting and also hearing Dr. Spurling's excellent paper and the discussion. I can add little of importance to what has been said. I have had the pleasure of observing these two patients both before and after operation. I have noted the skin temperature changes and that pain has apparently ceased, and also that function has almost completely returned.

It is gratifying to know that this operation may also be used for other conditions, such as Raynaud's disease, causalgia, erthremomelalgia, and many other lesions in which there is reduction in the blood supply to the extremities. This is particularly true when the results can be determined before operation, by the vasomotor index as mentioned by Dr. Spurling. This may be accomplished by various means. Typhoid vaccine may be used to study the relative rises of blood and surface temperature. This test has been in use for a number of years. Since, however, another method has been devised by which the temperature of the extremities may be increased. Instead of using vaccine, which is uncontrollable, acetylcholin hydrobromide is employed. This is given hypodermatically and will cause the extremities to become considerably warmer just as from the use of vaccine.

The vasomotor index, which really is an index of the relation of the increase in blood temperature to the increase of the skin temperature, is determined by taking the mouth temperature as the blood temperature and taking the various readings of skin temperature and subtract the rise in mouth temperature from the rise in skin temperature, then dividing the result by the rise of skin temperature. This gives the rise of skin temperature per degree of blood temperature elevation. If the vasomotor index is above 5, and many times it ranges as high as 14 to 16, you can expect results from sympathectomies.

In regard to the Horner's syndrome: It seems to me that it should be complete. The sympathetic to the eye itself comes from the eighth cervical and first thoracic segments, but passes out by anterior roots of first and second thoracic nerves through the sympathetic trunk and then to the Gasserian ganglion and by way of the ophthalmic division to the eye. I have not noticed any complete Horner's syndrome in these cases, but there have been other cases reported in which it was complete. Whether or not the incomplete Horner's is due to the fact that some of the gray rami still exist or some of them were missed during the operation, has not been determined.

Joseph M. Frehling: I wish to express my thanks to Dr. Owen and the society for the privilege of being here this evening. I have certainly derived much pleasure from what has been, and will surely in time prove to have been a very remarkable evening. I feel, in a measure, the same sensation that must have visited the group of individuals who very recently had the opportunity of witnessing the re-enactment of the first successful experiment in the invention of the incandescent lamp, at the Thos. A. Edison celebration. Just as it surely must have been thrilling to those men to witness what has proved to be an epoch making event in the lives of all of us, so I feel it has been my good fortune tonight to witness what I think will prove to be an epoch making event in the lives of those of us hungry for progress in medicine.

My observation and experience in the field of the sympathetic nervous system, has been confined to work done in the relief of angina pectoris and Buerger's disease. I was associated in Baltimore with Dr. Bernheim, formerly of this city, at a time when he was enthusiastic over benefits of cervical sympathectomy in angina and peri-arterial sympathectomy in Buerger's disease. This enthusiasm, however, was cooled somewhat as a result of an unfortunate experience in a case of angina. A cervical sympathectomy was done as an emergency procedure in a case of status anginacus. The relief was both marked and instantaneous. A few days later, however, this same patient while walking in the ward, collapsed suddenly and died promptly. This led to the belief that sympathectomy served only to relieve pain which had acted as a benevolent warning of the existing attack. It was not long afterward that the procedure was discontinued and with it for the time being at least, hope for the cure of angina pectoris by surgical means.

The former enthusiasm for sympathectomy in Buerger's disease too has waned. Although I believe that Dr. Bernheim still performs the operation in young individuals in the early stages of the disease. Dr. Buerger has discarded the procedure as having been tried and found wanting.

However, the features which have proved the undesirability of operative intervention in the conditions described, do not play a part in the cases presented by Dr. Spurling. The objections, if there are any, to the use of sympathectomy in these cases are not apparent.

The feature I cannot quite understand in the two cases Dr. Spurling has shown us, is the remarkable and rapid relief from pain. We can understand that removal of vaso-constriction will relieve pain in angina, but I do not see how this could be true in arthritis. It seems to me that the pain in arthritis is due to acute or chronic inflammation. I cannot understand how sympathectomy could have relieved the existing inflammation so rapidly. These patients had complete relief from pain a few days after operation. The remarkable thing, however, is that these patients were relieved. Like Dr. Morrison, if I had a child in the condition that these children were, I would want the operation done. I do not believe it makes any difference to these children whether or not they will be able to indulge in vigorous exercise. They could hardly have done so in their pre-operative condition. If they are merely enabled to make their own living, thus obviating the necessity of becoming a burden to society; if we can enable them to live a few years in comfort, great benefit has been accomplished.

Dr. Spurling is to be congratulated on his ability in handling these cases and his initiative in developing a new method, and I feel that we should congratulate ourselves and rejoice in the fact that we have had the opportunity of attending the premier performance of this magnificent play.

Emmet F. Horine: An interesting feature to me in the cases reported is concerning the ultimate effect that sympathectomy may have on the heart. Naturally the removal of the sympathetic ganglion carrying the cardiac accelerator fibres will leave the inhibitory fibres (vagus) in control. We know that the heart will continue to contract for relatively long periods even when removed from the body of the experimental animal with all the nerves severed provided the proper temperature and chemical concentration of the perfusate be maintained. This being true, then the mere severance of the accelerator fibres, in the otherwise intact heart, should not have a very profound and lasting effect. Possibly the inhibitory fibres will assert full control and regulate the rate. It will be extremely interesting to see, in after years, what will happen when these children exercise.

A further interesting phase of this question is relative to the effect of adrenalin on the individual with the accelerator fibres severed. We know that adrenalin increases the heart rate through sympathetic stimulation. Now, what effect if any, does the injection of adrenalin have on the heart rate of these individuals after sympathectomy?

The present results are good and the essayist is to be congratulated on what he has accomplished. So little has been done in the past for these patients that any procedure attended with relief is to be welcomed.

R. Glen Spurling, (in closing): I thank you gentlemen for the liberal discussion. You have given me several new points of view to consider in regard to this question.

In the first place I should like to re-emphasize that every case of infectious deforming arthritis should have the benefit of every known medical treatment before it is subjected to surgery. If such treatment is of no avail and the symptoms continue, then I should consider the patient a candidate for sympathectomy.

We have had all of the excised ganglia examined microscopically and in only one case has there been any evidence of primary pathology present in the sympathetic trunk. In one case of Reynaud's disease, one of the ganglia showed a definite round-celled infiltration. The other ganglia have been reported as being negative.

I have seen no case of atrophy of the muscles of the shoulder following cervico-dorsal sympathectomy nor have I seen patients who complained of pain in the upper extremities following sympathectomy. I am aware that these complications have been observed.

Regarding the classification of arthritis, I must admit that I am still confused by the various elaborate classifications that have been in vogue during the last five years. For my own purpose in selecting cases, I should prefer to use the simple classification proliferative and non-proliferative; proliferative types being those cases in which soft tissue swellings are the predominant features and in the non-proliferative types where bony changes predominate. We know that most of the deforming types, especially those following infection, are of the proliferative variety. Also these cases are most apt to be associated with ischemic symptoms. From the standpoint of selecting cases for operation, I should say that only those cases without marked bony changes and with evidence of ischemia, at the same time which do not have primary arterial disease, as arterio-sclerosis, are those which may be considered to be favorable.

I believe the dangers to the cardiac mechanism have been over-emphasized. There are reliable reports in the literature which have demonstrated conclusively that the accelerator mechanism of the heart after cervico-dorsal sympathectomy is still intact. These observations are in line with the latest anatomical and physiological knowledge of the nerve supply to the heart. In experimental animals, Cannon has shown that the entire sympathetic chain of ganglia with their trunks can be removed without serious handicap to the animal. In fact, the only variation from normal seen in these animals is their tendency to seek warm environments in cold weather and their placidity as regards fighting. Presumably, this last effect is due to the depriving of the adrenal glands of their secretory mechanism, thus diminishing the supply of adrenalin during anger.

I should like to emphasize the statement in the text of the paper that this procedure is too new to draw any far-reaching conclusions. I think the results so far have been most encouraging, and on the basis of these results I feel justified in continuing this work.

PANCREATIC CYST, CASE REPORT*

By Fred L. Koontz, M. D., Louisville.

Patient, S. R. S., female, white, aged 62 years, referred by Dr. Cosby, of Henderson, Kentucky, about the first of August, 1929. The relevant history was progressive loss of weight, she having lost eighty pounds since the first of January. There was great physical weakness and so much distress at times that induced emesis was necessary to obtain relief. During the past ten days there had been rapid enlargement of the upper abdomen and severe backache. She was sent to the hospital for observation and study.

Laboratory findings: blood examination. Hemoglobin 80 per cent, erythrocytes 4,250,000, leukocytes 5,700. Two days later the leukocytes had risen to 6,500 with a polymorphonuclear count of only 76 per cent. Urinalysis: specific gravity 1025, acidity 30, albumin three-plus; negative for sugar, acetone, indican and phosphates; hyaline casts one or two to the one-sixth field; there was an occasional granular cast.

In order to exclude disease of the kidney, Dr. Owsley Grant was asked to make a cystoscopic examination and ureteral catheterization. He was able to demonstrate the patency of the ureters, though there was considerable mechanical difficulty due to pressure of the tumor. As the tumor seemed to spring from the right side, a pyelogram was made of that side, but the great amount of tissue and fluid contents of the tumor rendered it very unsatisfactory. However, Dr. Grant demonstrated a renal pelvis of normal capacity, which, for all practical purposes, I regarded as sufficient evidence to exclude the kidney.

The roentgen-ray examination gave us more information. Roentgenograms were made antero-posteriorly and laterally after the ingestion of a barium meal. The film which I exhibit is, in my opinion, a very remarkable picture, in that according to my interpretation it shows clearly the position of the tumor posterior to the stomach and colon which are flattened against the anterior abdominal wall.

Upon these data a pre-operative diagnosis was made of pancreatic cyst, and on August 9th, 1929, the abdomen was opened through a high right rectus incision. The stomach was found flattened toward the left and against the anterior abdominal wall; the transverse colon was downward and to the front. The summit of the tumor was found bulging through the gastro-hepatic omentum and was attacked by that route. The lesser omentum was separated from the wall of the tumor sufficiently to allow the sac to be brought into the incision after the tension was somewhat relieved.

Through an aspirating needle and with the aid of compressed air suction apparatus, such as they have installed at St. Joseph's Infirmary, the contents were slowly aspirated until the sac came well into the incision. A large trocar was then inserted and the contents evacuated rapidly, there being neither shock nor collapse to interfere. By means of the compressed air, the sac was so thoroughly and completely emptied of its contents, including a large amount of solid debris which ordinarily would not have been removed, that the after drainage from the sac was practically NIL. I believe thorough evacuation of the debris is an important factor in the early recovery of these patients.

The puncture in the cyst wall was now en- [illegible] incision, the edges were brought through the peritoneum and sutured to the fascia of the external oblique muscle, and the peritoneum then tightly closed around the neck of the sac. A five-eights inch drainage tube was introduced to the bottom of the sac. The operation required thirty-five minutes and was performed under sodium amytal supplemented by nitrous oxide gas.

There was practically no subsequent drainage, and the sac was obliterated with such rapidity that the patient was dismissed from the hospital on the fourteenth post-operative day. She was able to return to her home on the twenty-first day, and has since remained well. The fluid contents of the tumor amounted to 4,000 c. c., and the solid debris approximately (cubic measure) 1,000 c. c.

There is ever the question arising in these cases whether one has encountered a true cyst of the pancreas, or whether there is an extra-pancreatic retention cyst in the cavity of the lesser omentum. The differentiation, of course, depends upon whether we are able to activate the fluid and thereafter note its digestive action, and whether we observe any characteristic ferment activity upon the tissues of the wound. There is still another possibility of a true pancreatic cyst being "walled off" and thereby no longer participating in the gland activity, and becoming innocuous due to attenuation. This latter class, I believe, is the one in which this tumor belongs, though I have not been able to prove it. Dr. H. M. Weeter has been unable to activate the fluid to bring about its specific action, which of course argues in favor of its being a so-called pseudo-pancreatic cyst. In this connection, I wish to briefly mention two other cases.

Fifteen years ago I saw my first case of pancreatic cyst. The patient was a boy, aged 14 years, from Hancock County, Kentucky. It was clearly a case of endocrine dysfunction (hypopituitary). The tumor was very large and the boy died shortly after operation.

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*Read before the Jefferson County Medical Society.

My second case was referred by Dr. George F. Simpson, Louisville, and there was one factor that is worthy of record. The patient was a woman beyond middle life who had suffered repeated inflammatory attacks, so that after the abdomen was opened there were so many dense adhesions, which had become organized, that it was impossible to reach the tumor either above or below the stomach, without encountering uncontrollable hemorrhage. In my dilemma I deliberately opened the cyst through both walls of the stomach, and after evacuating it, left a trocar in situ through both walls of the stomach; and, strange to say, there was absolutely no interference with the stomach action. The patient took solid food, the stomach emptied itself, and there was never any vomiting, though the cannula was left in place for ten days. The woman was able to leave the hospital, and three weeks later had a "sinking spell" and died in a few minutes. Necropsy showed that both punctures in the stomach wall had closed, and that death was caused by hemorrhage due to erosion of an artery in the stump of the sac.

FORUM

Editor, Kentucky State Medical Journal,
Louisville, Kentucky.

Dear Doctor:

I think the Journal and Dr. R. Hayes Davis are both to be complimented on his excellent editorial on gastric ulcer in the January issue. His observations and conclusions are, I am sure, sound throughout.

There are, however, two points which, it seems to me, might with advantage have been emphasized even more strongly than they were.

The first is the fact that duodenal and gastric ulcer require to be sharply differentiated from each other because they offer two entirely different therapeutic problems. Duodenal ulcer, though it shows a marked tendency to recurrence, can almost always be relieved by medical treatment, as Dr. Davis has stated, and is never followed by cancer, so that no injustice is done the patient by allowing him to choose repeated sessions of medical management rather than risk an operation.

Gastric ulcer is, however, quite a different matter; and on account of its failure to respond satisfactorily to medical treatment as well as on account of its quite definite tendency to develop cancer, should probably be considered a surgical condition whenever its size and location permit removal of the ulcer.

The other point I had in mind was one which I am sure modesty prevented the writer of your editorial from stressing. X-ray examination is quite truly a precision method of diagnosis of gastric and duodenal ulcer but only when employed by an experienced gastro-intestinal roentgenologist. The fact should not be lost sight of that an incompetent or inadequate x-ray examination may fail to disclose even the presence of a rather large ulcer going malignant; and such failure, really the fault of the examiner and not of the method, may have very tragic results for the patient.

Very truly yours,
C. D. ENFIELD, M. D.

BOOK REVIEWS

POSTURE AND HYGIENE OF THE FEET—By Phillip Lewin, M. D., New York. (One of the National Health Series) Flexible Fabripoid. Price 30 cents. Funk and Wagnalls Compnay, Publishers, New York City.

"Posture and Hygiene of the Feet" covers a very important phase of general health. Nature intended that all of us should walk barefoot on soft ground. American Indians travel many miles daily without fatigue, wearing only the softest and most pliable of footwear. Civilization has brought hard floors of wood and tile, cement sidewalks, and asphalt streets—and shoes. This is the environment to which our feet must adapt themselves—an environment in which an Indian might have his feet disabled in a few days.

What interests the average reader is that the author has enumerated the many foot troubles to which people of all ages are heir. Out of his long experience he tells of the best methods to correct these troubles, for the most part recommending the use of appliances or materials which are easily obtainable by any one. Perhaps most interesting, however, are the specific directions for preventing foot troubles which are found throughout the volume. The subject of flatfoot is treated at length. The widespread prevalence of this ailment among men was brought out strikingly during the World War, and the importance of preventing and correcting it is more widely realized.

Parents will find this a splendid guide in noting tendencies in their children that might later develop into serious foot-troubles for which surgery may be the last resort.

For a volume of modest size, "Posture and Hygiene of the Feet" covers a surprisingly large amount of ground. The chapter headings are The A-B-C of Foot Hygiene, Proper Care of the Feet, Flatfoot and Its Correction, Disturbances of the Metatassal Arch, Aankle Sprains, and Other Injuries. Even these can not give a full idea of the number of topics covered, for there is information regarding choosing the right shoes, hosiery, garters, fallen arch, arch supports, sprained ankle, etc., including the most common foot troubles, as corns, calluses, bunions, ingrown toenails, etc. It would be safe to say that no family library is complete without "Posture and Hygiene of the Feet."

Throughout the entire book Dr. Lewin has used language which every intelligent person can understand. He is Associate Professor of Orthopaedic Surgery, Northwestern University Medical School; Attending Orthopaedic Surgeon, St. Luke's Hospital, Chicago; Attending Orthopaedic Surgeon, Cook County Hospital; Fellow of the American College of Surgeons.

INTERNATIONAL CLINICS—A quarterly of Illustrated Clinical Lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Paediatrics, Obstetrics, Gynaecology, Orthopaedics, Pathology. Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to students and practitioners. By leading members of the medical profession throughout the world.

Edited by Henry W. Cattell, A. M., M. D., Philadelphia, U. S. A. with the collaboration of Chas. H. Mayo, M. D., Rochester, Minn.; Sir John Rose Bradford, M. D., London, England; Hugh S. Cummings, M. D., D. P. H., Washington, D. C.; William S. Thayer, M. D., Baltimore; Frank Billings, M. D., Chicago; A. McPhedran, M. D., LL. D., Toronto, Canada; James J. Walsh, M. D., New York; John Foote, M. D., Washington, D. C.; Sir Humphry Rolleston, Bt. , K. C. B., M. D., D. C. L., Cambridge, England; Sir Donald Mac Alister of Tarbert, Bt., M. D., F. R.C P., Glasgow, Scotland; Seale Harris, M. D., Birmingham, Ala.; Charles D. Lockwood, M. D., Pasadena, Calif.; A. H. Gordon, M. D., Montreal, Canada; R Bastianelli, M D., Rome, Italy; James M. Phalen, M. D., Washington, D. C.

Volume II., Volume III. Thirty-ninth Series, 1929. J. B. Lippincott Compnay, Philadelphia and London, Publishers.

The International Clinics always welcome volumes to the busy practitioner for they give in detail problems that arise every day in the doctors daily rounds .

In Volume II. the article by Dr. Harlow Brooks, of New York, on Periodical Physical Examination is very timely and will be of great value, because the public, as well as the physician, is interested in this subject. Other subjects as Spinal Anesthesia, Manners and Morals in Medicine are among the many interesting topics found in these books.

WOMAN'S AUXILIARY NOTES

HARDIN COUNTY AUXILIARY

The Woman's Auxiliary to the Hardin County Medical Society was re-organized at the Brown-Pusey House in Elizabethtown by Mrs. S. P. Park, Irvington, on October 8, 1929. The officers elected were: President, Mrs. R. T. Layman; Vice-President, Mrs. J. C. Mobley; Secretary-Treasurer, Mrs. J. I. Taylor; Publicity Chairman, Miss Stella Hubbs—all of Elizabethtown. The other active members are: Mrs. J. I. Greenwell, New Haven; Mrs. J. G. Hale, Glendale; Mrs. C. F. Long, Mrs. D. E. McClure, Miss Nell Pusey, of Elizabethtown.

The Auxiliary meets every second Thursday in the month and is taking up the Study Course on the Medical and Health Laws. We will appreciate suggestions for further work.

(Mrs. J. I.) Bessie N. Taylor,
Secretary-Treasurer.

CHRISTMAS WORK

Mrs. George C. Leachman, Chairman of the Hospital Committee of the Woman's Auxiliary, Jefferson County Medical Society, gave an interesting report of Christmas work at a recent Board Meeting. Mrs. J. Duffy Hancock worked with Mrs. Leachman. They decorated the Christmas trees and the ward entrances of the male and female psychopathic wards of the Louisville City Hospital. Christmas gifts of games, checkers, lotto, etc., and refreshments of ice cream and cake were provided for each patient. Much pleasure and gratitude were expressed for the entertainment.

OUR NATIONAL'S HEALTH PROGRAM

Along with other State Medical Journals, we are glad to publish, in full, the outline of the official health program of the Woman's Auxiliary, American Medical Association, to which the National Advisory Council has given its approval. This Advisory Council is composed of five members. They are: Dr. A. R. Mitchell, Lincoln, Nebraska; Dr. J. H. J. Upham, Columbus, Ohio; Dr. J. H. Walsh, Chicago, Illinois, all trustees; Dr. Olin West, Chicago, Secretary of the American Medical Association and Dr. Morris Fishbein, Editor of the American Medical Journal.

To the Kentucky members, this program will bring much gratification, for, we are assured by Mrs. George H. Hoxie, our National President, that it was found upon the Study Course in Medical and Health Laws prepared by the Kentucky Auxiliary in 1929, and distributed to its members through the co-operation of the State Board of Health and the United States Public Health Service.

Those County Auxiliaries that sent reports of their studies to Mrs. Hoxie for use at the Annual Conference in Portland, Oregon, last July, may take justifiable pride in their efforts toward the expansion and well-rounded development of this splendid program.

Following this outline, the first of a series of Study Programs for County Auxiliaries, has already been sent to the County Presidents by the National Program Chairman, Mrs. E. V. DePew, 115 Agarita Avenue, San Antonio, Texas. Studious use of these programs is earnestly recommended. Mrs. DePew will be glad to receive your comment and suggestions on this work.

OFFICIAL HEALTH PROGRAM OF THE WOMAN'S AUXILIARY OF THE AMERICAN MEDICAL ASSOCIATION

I. Public Hygiene

Fundamentals upon which Auxiliary work for improvement of public hygiene should be based:

(1) Recognition of the fact that public health work is a highly technical job, requiring scientific, technically trained workers. That health work undertaken by lay women with no knowledge of the public health problem as a whole is necessarily fragmentary and ineffective.

(2) Recognition of the fact that every state, county and city is entitled to a scientific full time health department (organized not to treat the sick, but to prevent disease and promote health), adequately financed, free from political domination, and providing continuity of service to a trained personnel so long as work is efficient.

(3) Recognition of the fact that the first and most fundamental job for lay organizations like the Auxiliary is to secure such scientific full-time health departments and adequate health protection, in their state, their county, their city or town.

(4) Recognition of the fact that where efficient, full-time, scientific health departments do not exist (and only about ten per cent of the rural districts of the United States have anything approaching adequate health protection), health activities must be initiated and carried on by volunteer unofficial agencies; but that all such work should be so planned and administered as to serve as stepping-stones toward the full-time official health department, and that when the full-time official health department, with workers trained for public health work has become an accomplished fact, lay organizations should support and co-operate with the official workers and should be willing to take orders from them.

(5) Recognition of the fact that no health department, state, county or city, can do effective work without intelligent co-operation of the public; that such public co-operation depends upon wide-spread health education; lay organizations can do this educational work, and are needed for it; and that the Auxiliary can be one of the most valuable tools for an official health department to use in this work, because it can by its education of the public concerning the official health department's work and needs, be the means of gradually eliminating or preventing political interference with an efficiently working department, and thus insure to it uninterrupted public service.

Most volunteer agencies do not yet realize the wastefulness of their individualistic efforts. One of the first things the Auxiliary should do is to work for a change of attitude in other volunteer women's organizations.

Health officials know that it is not always the work which makes the greatest emotional appeal to the public which most needs to be done. Unfortunately most women do not know this. This is something the doctors' wives might well undertake to teach other women.

The National Auxiliary recommends, therefore, that each State Auxiliary undertake, under the direction and with the help of the Public Health Committee of the State Medical Association and of its Advisory Council a study first of all of the fundamental principles of health promotion and disease prevention; second, of the set-up considered essential by public health experts for an effective state health department, of qualifications of personnel, adequate budget, and the like; and third, of the state health conditions; that it devise means of acquainting all the state board members with the result, and that recommendations for educational work by the county Auxiliaries be based upon the conditions found.

In states where all is well and where time has developed good official health machinery and good health conditions, general knowledge of the fact will tend to prevent interruption of the excellent work, and will be a source of satisfaction to the women of the state.

In those states where there is much yet to be done, this investigation will indicate what sort of work needs doing first. For example:

(a) In those states which are not in the Birth Registration Area, the Auxiliaries would, without doubt, wish to tackle, as their first job, the ninety per cent birth registration problem.

(b) In those states in which the state health department believes the "County Health Unit" to be the solution of the rural health problem, the county auxiliaries should be encouraged to take as their chief work such persistent and wide-spread education of the public as will gradually create a general demand for the full-time county health department.

(c) In those states where the rural health work is directly done "long distance" by the state health department, the county auxiliaries, if willing to work, and work under the directions of the state health department, can carry on intensive local health education work which would be impossible for the state department without intelligent local co-operation.

To those auxiliaries which agree with these ideas the committee recommends the following outline of study:

(1) Vital Statistics. Their value.

Compare the vital statistics of the state with those of other states.

Compare the vital statistics of the different counties of the state.

Compare the vital statistics of the cities with other cities in the state, and in the United States.

(2) The State Health Department; its organization; and program:

- (a) For general state work.
- (b) For co-operating with the counties in improving county health conditions.

(3) The value of the Public Health Nurse.

(4) The County Health Unit as a possible solution of the rural health problem.

Community-wide Conditions Which Affect Health

(5) Milk:

Milk standards, why necessary, what milk standards your community needs. How are these needs being met?

(6) Housing:

Your community housing laws.

Housing conditions as they have developed under these laws and as they affect health.

Improvements needed.

(7) General Sanitation and its relation to the death and morbidity rates.

Sewage disposal.

Water.

Garbage.

Flies.

Dust and street cleaning, etc.

II. Personal Hygiene

The improvement of personal hygiene in any community is almost entirely a matter of education. Here again the Auxiliary members must first educate themselves before they can take a safe part in educating the public. The committee therefore recommends that the Auxiliary study programs shall include such subjects as:

Health Promotion:
- Prenatal care.
- Child Welfare — infant and pre-school hygiene.
  - School hygiene.
  - Mental hygiene.
  - Social hygiene.
- The advantage to the public of general compliance with health regulations.
- The periodic health examination.
- Control of communicable diseases.

The entire program should close with a survey of all the private agencies doing health work in the community, and a discussion of the possibility and desirability of centering the direction of all such work in a full-time, scientific health department, under which the private agencies, while still maintaining their identity, would work in complete co-operation.

BOOK REVIEWS

PHYSICAL EXAMINATION AND DIAGNOSTIC ANATOMY.—By Charles B. Slade, M. D., formerly Chief of Clinic in General Medicine, University and Bellevue Hospital Medical School, New York. Fourth Edition, thoroughly revised. 12mo of 196 pages with 43 illustrations. Philadelphia and London. W. B. Saunders Compnay, 1929. Cloth, $2.00 net.

This book, as its title implies, is intended to be a text-book on Physical Examination, its technic, fundamental methods and principles, to prepare the students for the study of any of the various able and comprehensive works already written upon Physical Diagnosis.

The diagnosis of specific disease conditions has been carefully avoided, as this work deals chiefly with the normal subject, a few instances of the abnormal being mentioned here and there to emphasize the importance of certain procedures and to retain the interest of the student.

The subject matter has been arrangd to accord with the natural course that an average minded student pursues in acquiring knowledge regarding any subject which attracts spontaneous interest.

INTERN'S HAND BOOK—By Members of the Faculty of the College of Medicine, Syracuse University, under the direction of M. S. Dooley, A. B., M. D., Chairman Publication Committee. J. B. Lippincott, Philadelphia and London, Publishers, Price $3.00.

As the title implies this little volume was written primarily for interns, but it can be read and used with profit by any physician. The "Intern's Handbook" constitutes a scientific and authorative guide to rational drug therapy, clinical procedures and diets, correlating and unifying the knowledge gained in the classroom for bedside use.

Provided with such a guide, clinical clerks and interns should more easily adapt themselves to hospital routine and should more quickly acquire the ability to render effective service.

Kentucky Medical Journal

Published Monthly By
THE KENTUCKY MEDICAL JOURNAL
Incorporated

Entered as second class matter October 22 1906, at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price $5.00
Edited Under Supervision of the Council

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COUNTY SOCIETY REPORTS

Jefferson: The March program of the Jefferson County Medical Society will be as follows:

March 3, Case Reports

Vesico Vaginal Fistula: Report of Case—Dr. Walter Hume.

Appendicitis Rupturing Into Infant's Scrotum.—Dr. Charles Edelen.

Essay

Schillings Differential Blood Count—Dr. John D. Allen.

General Discussion.

March 17, Case Reports

Lethargic Encephalitis, Report of Case—Presentation of Patient.—Dr. Leon L. Solomon.

Primary Melanosarcoma of the Meninges, Report of Case—Dr. John J. Moren.

Essay

Malignant Neoplasms—Review of 2571 Cases Occurring in Kentucky—Dr. R. P. Ball.

General Discussion.

E. F. HORINE, President.
J. C. BELL, Secretary.

Adair, Green, Taylor: The joint annual meeting and banquet of the Medical Societies of Adair, Green and Taylor Counties was held in Campbellsville on the evening of December 12th. The feast was provided by the class in Home Economics of Campbellsville College and consisted of four courses.

Because of road conditions only a portion of the membersship was able to attend. Dr. McChord, our district councilor, and two of the physicians of Marion County, Drs. Crenshaw and Wilbur added to the success of the meeting. Dr. A. L. Bass of Louisville, also contributed to the success of the meeting.

Dr. John R. Wathen was the guest of honor and delivered a most interesting essay on the subject of "The Vaginal Route in Pelvic Surgery." The paper was extremely clear cut and concise and was beautifully illustrated by lantern slides.

Rev. T. E. Ennis, of LaGrange, made an instructive talk on "The Doctor" using as a basis that noted painting of the same subject, which is so dear to the medical profession and is found framed in almost every office.

W. B. ATKINSON, Secretary.

Pike: At our monthly meeting held December 10th, the following officers of the Pike County Medical Society were elected for 1930: Dr. R. W. Raynor, Pikeville, president; Dr. Paul Gronnerud, Pikeville, vice-president; Dr. A. G. Osborne, Pikeville, Secretary and treasurer. Drs. M. D. Flanary, R. S. Johnson and Paul Gronnerud were appointed Censors.

The following members have paid their dues for the year 1930: Drs. Gronnerud, Casebolt, Flanary, Johnson, Raynor and Osborne.

A. G. OSBORNE, Secretary.

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KENTUCKY MEDICAL JOURNAL

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Being the Journal of the Kentucky State Medical Association

Published Monthly under Supervision of the Council

Editorial and Business Office, Corner State and Twelfth Streets. Subscription Price, $5.00 Single Copy, 50 cents

Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 8, 1917, authorized May 25, 1920.

VOL. XXVIII. BOWLING GREEN, KY., APRIL, 1930 No. 4

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Published Under the Auspices of the Council

VOL. XXVIII. BOWLING GREEN, KY., APRIL, 1930 No. 4

EDITORIAL

MEDICAL BROADCAST

It is important for the profession to realize what the State Board of Health is doing over the radio, WHAS, through the courtesy of the Courier-Journal and Louisville Times. At present these radiocasts are being given at 4:30 P. M. on each Thursday. In order that the profession may know what we are trying to accomplish, we are reproducing the radiocast for March 6th:

"ON USING A DOCTOR

A more skillful and able medical profession and better facilities for training physicians than those found in Kentucky exist in few places, and yet there is ground for criticism at the way the public uses doctors in this State. In all too many cases all the house hold remedies known to the family, all the neighbors in the vicinity and all the almanacs and doctor books to be had are consulted before a physician is summoned to see a patient.

There is plenty of statistical evidence to show that physicians are all too often used as a remedy of last resort. When nothing but the miraculous could restore health and save the patient the doctor is called in. Take the two diseases, Appendicitis and Diphtheria, for example. These two diseases killed nearly 1000 people in Kentucky last year because in many cases, the doctors of the State did not get a chance to use their skill and knowledge soon enough after onset of illness.

To cure Diphtheria is easier and more certain, perhaps, than Appendicitis when antitoxin is given soon enough and in sufficient dosage. Yet last year the State lost over 300 citizens, mostly children, to that disease. There is no lack of evidence that recovery follows in nearly all cases when antitoxin is given on the first day after diphtheria sets in. Delay in calling a doctor prohibits him from using his skill and knowledge in bringing about recovery in these cases.

It may be that emphasis on prevention during recent years has overshadowed the importance of prompt and correct treatment of Diphtheria. A study of the records indicates that a doctor was not called until the third or later day after onset in over 40 per cent of the cases of Diphtheria last year. Giving antitoxin at that late stage of the disease corresponds to getting firemen on the job after a building is wrapped in flames.

The situation in regard to these two diseases indicates very clearly that physicians are too often rushed in to apply their skill and knowledge at a terminal period when heaven and earth could save nothing less hardy and tenacious of life than the human body. The wonder is that recovery is so frequent and that fatal outcome is so seldom. "Buy a new one" would be the advice of mechanics in 90 per cent of the cases if automobiles were subjected to a similar practice. It's just too bad that a new heart or a new pancreatic gland cannot be had for replacing the old one.

What is true in relation to Appendicitis and Diphtheria is true concerning many other ailments. The methods of treatment for these are so specific and so trustworthy that the results of improper or delayed treatment can be measured more accurately and recorded with greater authoritativeness. Other diseases very commonly are allowed to go too long before bringing a doctor into the picture. Heart disease frequently follows the same course.

No doctor wishes to be called for every trivial ailment nor does any person like to incur the expense of professional service unnecessarily. At the same time it is a lot more satisfactory to err on the safe side by calling a doctor at times which prove to be unnecessary than to delay too long in one case that ends disastrously on that account.

Use common sense at all times in cases of illness, which will prompt you to consult your physician when necessary and not only after all home remedies have failed."

It would be well worth while if our members could advise their patients to tune-in for these messages.

Youthful Old Age—"Health is very precious jewel, and the only thing, than in pursuite of it deserveth, that a man should not only employ time, labour, sweate and goods, but also life to get it; forasmuch as without it, life becommeth injurious unto us. Voluptuousness, Science , and Vertue, without it tarnish and vanish away."—Montaigne.

"Few people know how to be old."

La Rochefoucauld.

SCIENTIFIC EDITORIAL

TREATMENT OF OBESITY

Cases of obesity are naturally very frequent and they are not only objectionable to the individual from the standpoint of physical discomfort and appearance, but excessive fat frequently leads to various complications that lessen the life expectancy. Obesity in the strict sense of the term, means an excess in weight beyond a twenty per cent increase over the average. If the fat is less than the percentage of increase it probably has little effect on the general health, but statistics have shown that fat people do not live to be very old. All physicians are familiar with the frequent occurrence of nephritis, hypertension, early arterio-sclerosis, and myocardial degenerations which so frequently occur in these cases. It is also well known that a large percentage of diabetic cases develop in obese patients.

The treatment of these cases should be conducted along scientific lines. It is not enough to tell a patient not to eat certain things. If this is done he is very likely to cut his protein too low or to reduce his weight too rapidly with the result that sometimes serious damage to the body occurs. The simplest method is to determine the normal caloric requirements of the patient to be treated. One can very quickly figure out the quantity of protein necessary to keep up the nitrogen equilibrium. It is absolutely necessary to give not less than ⅔ of a gram of protein for each kilogram body weight, but it is well to begin the treatment of the case with one gram of protein per kilogram weight. The number of calories can then be lessened moderately below the actual requirements by reducing the quantity of fat in the diet with a moderate reduction in the carbohydrates. The weight can now be watched and the quantity of food can be lessened or increased to bring about the reduction in weight that is desired.

As a rule, it is not difficult to secure a gradual lessening of the body weight except in endocrine cases where the physician is often disappointed to find that even with the most rigid dieting, there is little or no loss. These cases are difficult to manage. If there is hypothyroidism, as determined by the basal metabolism test, then of course it is obvious that thyroid should be administered. If some other endocrine deficiency exists the corresponding remedies may be given, but in cases other than hypothyroidism the results are often disappointing.

A warning should be given against the dangers of weight reduction. Von Norden pointed out years ago, that it was not safe to reduce the weight of patients over fifty years of age, as the danger of heart damage is great at this time in life. One should be content with the reduction of about four or five pounds a month. If the weight is reduced too rapidly it often results in definite physical and nervous weakness with often heart weakness, and the health of the individual may be temporarily, or permanently, impaired. This is especially true if the protein is lessened below the actual requirements of the body. Fats and carbohydrates are necessary for the purpose of maintenance of the body heat and energy but only the protein are capable of replacing the normal tissue waste in the vital cells. Consequently, if a prolonged excessive lessening of the protein is carried out serious degeneration in the vital organs is almost certain to follow. Also it must be remembered that starvation leads to acidosis with its string of symptoms. It is especially important that great care and great judgment should be used in treating patients with organic heart disease and those showing any symptoms of failing circulation. Sudden deaths or other types of heart failure are not infrequently brought about by weight reduction. Although the tempation to reduce excessive weight is very great, yet it can readily be seen how unsafe it is for patients to follow the various diet suggestions that are often given out for one reason or another by those not familiar with the physiology of the human body. Such diets as nothing but orange juice, nothing but vegetables, small quantities of buttermilk, etc., often lead to very rapid reduction of body weight but at the same time with serious health impairment. Patients wishing to lose a certain number of pounds should consult their physicians and should realize that they are undergoing a treatment just as important, from the standpoint of their future health, as if they were undergoing a treatment for some other malady.

It is needless to say that the indiscriminate use of drugs, such as thyroid, is often very dangerous.

The question of exercise is a very important one. It is always important to the health of any individual to take a proper amount of exercise daily in order to keep up the normal activity of his body and to bring about proper metabolic changes and proper elimination. While going through a reduction regime, an increased amount of exercise will greatly facilitate the reduction treatment. However, it is important to advise these patients as to how much exercise they should take and to take into consideration their ages and the condition of their hearts. If their diet is lessened and their exercise is increased too drastically, the strain on their circulation may be too great.

To recapitulate: the reduction in individuals who are overweight is of material advantage, not only to the comfort of the individual but to the lengthening of his life and to the treatment of certain diseases to which he may be subject, but the reduction regime should be as carefully prescribed and carried out as the treatment of any important disease.

R. HAYES DAVIS, M. D.

ORIGINAL ARTICLES

ANNUAL PUBLIC ADDRESS
FOCAL INFECTIONS*

By Charles H. Mayo., M. D., Rochester, Minnesota.

I know half of this audience are not of the medical profession and tonight I am going to tell some of the secrets of disease. Medicine has been revolutionized since one of the main causes of disease, that little world of invisible organisms, was discovered. In 1590 the first microscope was made, but it didn't amount to much until 1686 when Leeuwenhoek ground better lenses. Even then its use was just to expose an object of curiosity, the wiggling types of microscopic life. In 1818 the idea was conceived that germs had to do with disease, and a number of men began to study the subject. But they were not big enough to broadcast their ideas and have them generally accepted, either by the doctors or the public, until Pasteur reproduced disease and proved the cause of disease, and how it might be controlled. From that time to this, marvelous progress has been made.

The doctors, the microbe hunters, how many of them have been destroyed by the very microbes for which they were searching! Every doctor who dies in his effort to discover a microbe that is the cause of one of the great destroying diseases, is a hero as great as those who go on antarctic expeditions.

In the sixteenth century, the average age of man was twenty years; it is now fifty-eight years. How has the change come about? Simply from good public health services which have employed every possible way of checking the gross diseases that have destroyed life in the past. I believe that in this state you have one of the best examples of public health service. The Kentucky State Public Health Service does the best work for the good of the people, in prevention of disease, of any place I know of.

Smallpox has been checked; yet smallpox is one of the most intelligent diseases that ever existed, I believe. It attacks only those people who do not have faith in vaccination. If the plague has been stopped, and typhoid fever, and all those old diseases that we knew about for years and years before we had any knowledge of the exact microorganisms which caused them, what cannot be done in the future with knowledge of the causative organisms? Can we save more lives in bulk? We have increased the length of life, but twelve years more would be required to increase the average age of man to seventy years, to three score years and ten. Man must take individual responsibility for his own health or else the public health service cannot take care of him. All of us who know about the spread of disease and the carriers of disease must keep pounding at it, and pounding at it until the public appreciate it.

Twenty years ago the dentists were devitalizing teeth, and crowning them after filling the root cavities, with the result that a person with crowned teeth had absolutely no sensation in the roots. The nerve was gone; so utimately, if he lived long enough, he was bound to have dead teeth, and abscesses or infections would develop around the roots. So he carried in his own kit bag the cause of some of his troubles.

Some people may resist microbes a long time before they cause appreciable secondary trouble. Many different types of microbes have different selective actions, some on the nervous system, some on the kidneys, some on the heart muscle. In some cases the possible cause of future death can be seen by careful examination of the teeth. Associated diseases can be found in different regions that have been attacked by chronic or acute infection.

Eighty-six and a half per cent of all deaths are due to acute or chronic infection, the result of injury to tissue. This type of injury aids in exhaustion of the heart, of the kidneys and of the cardiorenal functions, and in the high blood pressure, that we find are using us up today. How few people are really well today! There are thousands and thousands of people in hospitals. We take great pride in our hospitals, but we will need fewer beds in hospitals if we can only devote our attention to preventive medicine that will check disease.

Stone in the kidney frequently is a deposit of calcium that is brought about by bacteria. Knowledge of this mechanism has been obtained by experimentation in the laboratory. I think the grandest thing in the world is the society of human beings, and that the highest use to which an animal can be put is not to be eaten but in experimentation which will result in saving human life.

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*Delivered before the Kentucky State Medical Association, Louisville, October 23, 1929, at the Columbia Auditorium.

The dentist and surgeon, working together, have obtained some urinary bacteria from patients with stone in the kidney. Then, they anesthetized some animals and ground off the cuspid teeth. They removed the pulp, inoculated the pulp chambers with the bacteria they had obtained and sealed the openings or crowned the teeth. Within two and a half months apical abscesses developed in the animals as in human beings. Within seven to eleven months, 66 per cent of the dogs had stones in the kidneys, the same kind of stones that had been found in the human beings from whom the microorganisms came. In 20 per cent more of these animals the stony material was deposited loose in the medulla of the kidney. Thus in 86 per cent of all the animals used, either stony material, or actual stones, were produced. One urologist has reported 50 per cent of recurrence of renal stones. Braasch reported 9.5 per cent recurrence because of special efforts to get rid of the focal infection in the individual.

We have to examine not only tonsils and infected teeth for types of microorganisms. In 30 per cent of men thirty years of age the prostate gland is infected. The proportion rises to 50 per cent in men fifty years of age, and so on, increasing in percentage as the age increases. The men don't realize it unless the disorder is acute, and few of them undergo an examination to see if infection exists.

If the urine of a child that is in ill health is examined, it is likely that bacteria will be found. Often bacteria in the urine are thrown out as part of the work of the kidney to eliminate these bacteria from the blood stream, without producing harm to the kidney. Sometimes they do harm.

Women who have recurring diseases of the eye: Inflammation, redness of the eye, soreness, or ulceration are usually carrying microbes somewhere in their bodies, and in approximately 50% of the women they are found in the cervix. In other cases they are found in the teeth, in the tonsils, and in the mouth. The underlying condition should be investigated. Age cuts no figure in the problem. Women sixty and seventy years of age should undergo examination to disclose the cause of any recurrent condition. It is not something new or something catching. When our body temperature for a brief period drops a half degree below normal, out come the wolves to attack us. It isn't just the cold that would cause such a reduction in body heat. Worry and overwork will do it.

We should, then, have a study of bacteria, not only to know that we harbor them but to determine the type and chemical action of them. We should know where the microorganism launches its attack, what its affinity is. That is something Rosenow has worked on for years; namely, that certain microorganisms have definite affinity for certain tissues and for certain regions of the body.

In children with poliomyelitis, there is a little region in the anterior horns of the spinal cord which has been attacked by bacteria that have destroyed, or have nearly destroyed, the region attacked. This transforms electric action, so to speak, changing the voltage and amperage.

Even physicians have opposed the conception that a particular microorganism causes poliomyelitis and have asked why others in the family don't harbor the organism. In recent epidemics, Rosenow has made cultures of members of the families of patients, and the other members do harbor the organism. The father and mother and other children have it in the throat. Only one child in the family may have the disease, but in the community hundreds of people may have the microbe. The microbes, then, are present and go around and around the body. They do not cause rheumatism or anything else but poliomyelitis. If they are eliminated by the kidney, or the blood, or if they are destroyed before they happen to go through the tiny capillary vessels in the spinal cord, then there is no action.

If we could just get the idea that bacteria are the real chemists in the world, then we could appreciate what we are carrying about within us. All life is dependent on bacteria. The higher forms of life could not have occurred and could not go on without them. Fortunately, only a small per cent of them are dangerous or destructive to health. Some are troublesome because they are accidentally misplaced and continue their chemical work. When the public is in possession of greater knowledge of bacteria, there will be better cooperation with and enthusiastic support of the health officer.

Occurrence of Coronary T Wave in Rheumatic Pericarditis—Three patients have been observed by Porte and Pardee whose electrocardiograms showed an abnormality of the T wave which is practically identical with that described as resulting from coronary narrowing, or following an infarction. These cases were all associated with a rheumatic pericarditis. This abnormality of the T wave is characterized by a downwardly directed T wave with R-T or S-T interval showing an upward convexity, which lies either at the zero level of the record or above it.

THE IMPORTANCE OF DIAGNOSIS OF ACUTE RENAL INFECTIONS*

By Owsley Grant, M. D., Louisville.

The diagnosis of renal infections has assumed a new importance in recent years for two reasons. The first is that we have become enabled to differentiate the diseases of the kidney from other diseases simulating renal disease. No longer should gall stones, twisted ovarian pedicle, even appendicitis, cause much difficulty in the acute painful cases, but those diseases simulating a more chronic course, as typhoid, malaria, abnormal intestinal absorption, can be differentiated from a slow and low grade renal involvement. The second advance has been the ability to promptly recognise a renal lesion, and by treating it promptly, to save either life or renal substance. What we shall endeavor to emphasize in this paper is the importance of recognition of renal disease early, when conservative steps are possible.

The picture of renal pathology is based on renal anatomy and bacteriology. There are three portions of the kidney which may be involved in the process, either separately or simultaneously. If the pathology is permitted to progress, all portions of the kidney will be involved and destruction of the kidney ultimately ensue. The portions of the kidney spoken of are, first, the cortex; second, the pelvis with which is associated the ureter; and third, the perinephritic tissue. The lesions of the pelvis and ureter permit themselves to be diagnosed more or less accurately by study with the ureteric catheter and the use of media opaque to the x--ray. In this manner a complete outline of the ureter and pelvis may be visualized and the diagnosis clinched. Aside from simple pyelitis, most lesions of the pelvis and ureter are occasioned by some form of obstruction. The clinical picture is usually clear and the progress of the destruction slow. This type of case is customarily one which may be worked out at leisure and belongs strictly to the urologist. For that reason we are not considering it in this paper.

Now, lesions of the cortex and perinephritic lesions present quite a different picture. They are difficult to diagnose and simulate other medical and general surgical conditions so closely that many errors are made, and many cases do not have the proper consideration until it is too late.

A classical picture of cortical infection is hard to draw.

Pain: The kidney is an organ which lies deep in the body, far away from the integument and the nerve supply to the kidney proper is concerned chiefly with the proper functioning of that organ and little with the delineation of pain. We know from the study of phylogenetic reactions to pain that the most sensitive portions of our body are those that are most commonly exposed to injury, either external or internal. Thus, the skin is most sensitive and as we proceed inward or away from the skin, the sensitiveness diminishes. Consequently the kidney has few pain fibers and we must not look for pain as an early symptom of cortical infection. The first symptoms of pain are due to a distention of the renal capsule by the products of infection and these accumulate only after much damage has been done. Tenderness is more easily elicited in this instance and is most common in the costovertebral angle of the affected side and is exaggerated by a sharp percussion blow over this region.

Fever: Fever is the body's reaction to a systemic infection. To become widely disseminated, infection must be borne by the blood stream to distant parts. Now, the kidney is one of the organs most richly supplied by the blood stream. Hence infection here is quickly announced. Fever is the most common and most prominent symptom of cortical infection. With fever come chills and sweats which are only, of course, systemic reactions against this infection.

Laboratory findings are chiefly concerned with urinalysis and the blood picture. The urine is not remarkable. If the infection is in a small area or in multiple small areas, very little of the leucocyte infiltration about the abscesses may find its way to the pelvis and hence to the bladder. Blood in the urine is not constant and never in large amounts. The reaction to litmus is not definite nor characteristic. Casts are not seen as the result of the infection and little or no albumen may be present. So it is important to remember that, in theory, where we would ordinarily expect to find the chief clue to renal infection, mainly in its secretion, in fact, the reverse is the case and aside from a bacteriologic culture the urine is usually negative.

The blood picture has two points of interest. First, there is a leucocytosis of noticeable degree. This we expect anywhere that we find pus confined and absorption going on. The other blood picture is that of retention of the nitrogenous products of the blood. The affected kidney does not function well and, consequently, those products of metabolism which it should excrete are retained in the blood stream to a degree corresponding to the damage to the kidney. This retention of nitrogen in the blood is responsible for a common accompanying clinical symptom; that is, digestive disturbance, which varies from anorexia and thirst to flatulence and distention according to the severity.

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*Read before the Kentucky State Medical Association, at Louisville, October 21-24, 1929.

Now the pathology of renal cortical infection is varied. First, it may occur in one or both kidneys. If it does occur in both kidneys simultaneously, as it may, as the result of a general septicemia, it is usually so rapidly fatal as to make its consideration useless.

Acute infection may be present in one kidney. It may involve only a small wedge shaped area as the result of a purulent embolus lodging in an arteriole and making a septic infarct. This progresses more slowly, however, giving rise to the symptoms of infection and absorption. These emboli reach the kidney usually from some distant focus of infection, commonly a boil or carbuncle or postoperative wound. These septic infarcts gradually grow larger and, if untreated, rupture usually into the perinephritic tissue and ultimately evolve a perinephritic abscess.

The other type of cortical infection is that of miliary abscesses scattered throughout the kidney substance. The commonest infecting organism is the colon bacillus, less frequently the staphylococcus and streptococcus. The absorption from these multiple miliary abscesses produce the symptoms heretofore detailed and their growth and local dissemination produce the destruction of the kidney. If, in addition to the cortical tissue being involved, some of the products or causes of this infection reach the pelvis and urether and set up inflammation there, they may readily cause obstruction to the urinary flow by distortion of the canal and add immensely to the gravity of the disease.

The importance of early recognition of this type of infection is emphasized by the results which follow. We have seen that bilateral acute cortical infection is so rapid in its progress that it affords no possibility of treatment except palliative and then it is almost always promptly fatal. But with unilateral infection the disease is essentially local and if promptly handled, may either avoid a very tedious and somewhat dangerous convalescence which is the most favorable outcome to be hoped for. When this occurs, the infection is gradually overcome by the body resistance and a chronic pyelonephritis develops which destroys the value of the kidney and is in itself always in imminent danger of a sudden violent flare up.

A second termination of acute cortical infection is the developement of blood infection with its disastrous accompaniments and often death.

There is little to choose from in these possibilities and if they can be avoided, then recourse to the treatment that accompishes this is of paramount importance. When the diagnosis is definitely made, the time for surgical intervention has arrived. The least that is demanded is surgical exploration of the kidney. If the abscess is large and localised, the carbuncle of the kidney or septic infarct type, it may be possible to excise this portion of the kidney and leave some valuable and healthy kidney. But this can only be done in the very early cases. When the abscesses are multiple and miliary, nephrectomy is the only course. If the surgery is done before suppuration has long progressed, a nephrectomy is a comparatively easy operation. But in delayed cases, it is quite a different problem. The surrounding tissues have become involved, the fibrolipomatous envelope which encloses the kidney becomes thick, edematous and adherent and makes nephrectomy a very difficult and very dangerous procedure.

We are urging, then, the early recognition and consideration of renal infections. The analogy of appendicitis has been impressed on us for years by the general surgeon. After their clinical and pathological experience, how many of you are willing to let a fulminating appendix lie in the abdominal cavity? You have all seen the sudden subsidence of fever and prostration of the acute appendix subside almost simultaneously with its removal, and know of the mortality and, at best, tedious convalescence and hernia and sinus formation that attends removal of the appendiceal abscess. This story is older to you because appendicitis has been so treated for many years. The history of prompt surgical treatment of acute suppurative cortical renal infection is the same even if the experience is briefer. The details of this disease have not been dilated upon because the outstanding facts are of such importance that we do not wish to confuse, fearing that by multiplicity of detail we may cloud the picture as the nymph, surprised at her bath, troubles the water of her fountain.

DISCUSSION

Clem Hill, Louisville: It seems that a very important point to bring out at this time is to know the type of renal infection we are dealing with. Therefore, it would be advisable to get a culture of the blood and urine so as to determine the condition that we suspect.

The virulence of the infection depends on the type of organism we have to deal with. The colon group of septicemias is, of all septicemias, the most benign, and a large majority of these cases respond spontaneously without operative intervention, while those caused by other pyogenic cocci are more likely to cause abscess formation and deep infection.

Streptococci are found less frequently in the urogenital tract than staphylococci. In many cases they are found in mixed infections of the bladder when no special symptoms are noted. Rarely are they found in chronic pyelitis. The virulence of various members of this group vary greatly. The hemolytic varieties are most virulent. Septicemia may occur and is practically always fatal quickly with this hemolytic type, and more slowly with the streptococci viridens.

It seems important that in studying this type of infection, we should always determine the type of organism that we are dealing with before going into the surgical procedure. (Applause).

Owsley Grant, (in closing): There are many types of renal cortical infection, both the cocci and the colon may be the offending organisms but the cocci predominate in cortical type, the colon in the pelvic. The diagnosis is often obscure, almost never is the picture pathognomic, but it so often simulates the clinical picture of septicemia or the fevers that results from ordinary body infections where pus is localized and absorbed. The diagnosis is made by tenderness in renal region and the information gleaned by cystoscopy. As soon as the diagnosis is definitely established prompt exploration of the kidney is mandatory and this usually invites nephrectomy as this is proven by experience to give better results than nephrotomy.

It means that not every case of renal infection demands surgery, of course, but those that are prolonged, such as this type I have shown, and when palliative measures have been tried to be sure there is no other recourse.

Chronic Otorrhea Treated with Calot's Solution—The composition of Calot's mixture is as follows: guaiacol, 1; creosote, 5; sulphuric ether, 30; iodoform, 10, and olive oil, 70. The ear should be cleansed of all secretions that may be present in it at the time. After the bottle has been carefully shaken, from five to ten drops of the solution is instilled into the canal of the affected ear, the head being bent to one side so that the treated ear is uppermost. In order to get the disinfecting fluid into the eustachian tube, Harnick employs tragus massage. In this method the opening of the external canal is closed by pressing the tragus against the canal wall and bringing alternate pressure to bear on it so as to effect a pumping action on the mixture. This massage is kept up till the patient feels the medicament in the throat. This procedure is carried out every night for a week. Nothing else is done. By this time the secretion will have changed from a thick, ropy to a thin, serous nature. When it is also markedly reduced in amount, the instillations of Calot's solution are discontinued, and insufflations of boric acid powder are used. After several of the latter procedures, the ear will appear dry.

SURGICAL ASPECTS OF DIABETES*

By C. C. Howard, M. D., Glasgow.

Most diabetics who come to the surgeon are past mid-life with vascular changes which make them a double risk.

This is a period of cooperation, the internist should be the right hand man in preparing the patient for surgery, the urine should be practically sugar free, with the blood sugar under control. These factors are obtained with proper diet and the intelligent use of insulin if indicated. With correct pre-operative care your case should come to operation with almost as good chance for recovery as the non-diabetic.

The choice of anesthesia should be decided by the surgeon, at present I am in favor of ether given by the open drop method, local will often prolong the operation thereby adding shock, spinal may be the future anesthetic. Keep your patient warm both during and after anesthetic.

Post-operative care is the keynote to success, glucose 10% in normal saline given intravenously using Dr. Hendon's method is an excellent way to give them fluid and food. Control your sugar level with insulin.

The skin should be well cared for in every diabetic, they are all candidates for boils, carbuncles or gangrene. Advise them to keep clean, wear well fitted shoes and trim no corns. Boils and carbuncles are best treated with actual cautery, C. H. Mayo method. Dry gangrene with no sepsis control with diet and insulin and wait for line of demarcation before amputating. Moist gangrene with sepsis, amputate early and high above the knee.

CONCLUSIONS

1. Pre-operative care with diet and insulin under the supervision of a good internist.

2. Operate only when plainly indicated and never in haste.

3. Be sure your patient has plenty of water and glucose (after operating) properly controlled with insulin.

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*Read before the Kentucky State Medical Society, Louisville, October 21-24, 1929.

FUNDAMENTALS OF DIABETIC THERAPY*

By Frederick G. Speidel, M. D., Louisville.

Diabetes mellitus has been recognized as a definite clinical entity for twenty centuries; its effective management is a matter of the past decade. When we view the imposing edifice of diabetic therapy as it stands today we are prone to forget the broad foundations of physiology, chemistry and mathematics upon which it rests. It is for the purpose of inviting your attention to some of these fundamental principles that the following lines are written. At the beginning it may be well to point out that although the discovery of insulin has been one of the greatest achievements of the present generation, ranking as a life saving measure, with the use of Lugol's solution in the preparation of patients for thyroidectomy, it is to be remembered that less than 25 per cent of diabetics who are on proper diets need insulin.

Furthermore, even in those diabetics who take insulin the diet is of tantamount importance. Therefore, it is proposed to deal, in this paper, at greater length with the foundations upon which the present dietary management of diabetes rests than with the use of insulin.

Acidosis

Acidosis must always be that condition, the prevention of which, is of prime importance in the planning of a diabetic diet. The word acidosis was coined by the great Bernard Naunyn in 1906, and was intended by him to denote that condition of a diabetic characterized by the presence in the urine of betaoxy-butyric acid, aceto-acetic acid and acetone. The term acidosis has now acquired additional significance so as to include uremia, asphyxia and probably other distantly related conditions. The chief objects in view in planning a diet for a diabetic are, to give him sufficient protein and sufficient calories, to keep his blood sugar within normal limits and to avoid acidosis.

Whether or not a patient is receiving sufficient food is largely a matter of watching his weight and keeping it at some predetermined figure. The manner of ascertaining the urinary sugar and blood sugar are too well known to need comment. The question of acidosis however, merits some consideration.

In diabetes the acids introduced into the blood stream are beta-oxybutyric acid and aceto-acetic acid. These result from the improper and incomplete oxidation of the fatty acids which are the digestive products of the fats and certain of the amino acids in the proteins of the food and body tissues. It has long been recognized that in order for the fats to be oxidized completely, there must be a certain quantity of carbohydrate undergoing oxidation in the body simultaneously, for Rosenfeld in 1906 proposed the conception that carbohyrate serves to catalize or "set off" the oxidation of fats, in the time honored remark, "Der Zundstoff fur die Fette sind die Kohlenhydrate." (The tinder for the fats are the carbohydrates). However, up to the year 1920 no one had any idea as to exactly how much carbohydrate was necessary to "set off" any given quantity of fat.

During the first two decades of the present century the literature of diabetes is largely concerned with the efficacy of various empirical methods of feeding. The "cereal cure" of Falta, the "milk cure" of Donkin, the von Duering "rice cure" and the von Noorden "oatmeal cure" all receive their proportion of praise or blame.

In 1915 Allen proposed and popularized the so-called starvation treatment of diabetes. At the same time Joslin was using low fat undernutrition diets and Newburg and Marsh were using high fat diets. Strange to relate, each of these various apparently contradictory methods seemed to be strikingly effective in the prevention or alleviation of acidosis in the clinic of its originator and of only dubious value to the profession and to diabetics in general.

Antiketogenesis

It is no wonder then that an effort which resulted in bringing some semblance of order out of this chaotic state of affairs should be hailed as an epoch making contribution to the history of diabetes. Such a piece of work was that of Philip A. Shaffer who published his results in 1920. Shaffer approached his problem from the standpoint of pure chemistry and conducted many experiments to discover the mechanism by means of which the oxidation of glucose prevents the formation or completes the combustion of the ketone bodies. His results were uniformly discouraging until he placed aceto-acetic acid in an alkaline solution and as an oxidizing agent added hydrogen peroxide and added some glucose. With this combination the results were striking. The aceto-acetic acid was oxidized rapidly and disappeared from the solution in a few hours. While with this same combination minus the glucose, 24 hours or more were necessary for the oxidation of the aceto-acetic acid by the hydrogen peroxide. Glucose was thus found to exhibit a ketolytic action in that it hastened the oxidation of aceto-acetic acid. This appeared to be analogous to its anti-ketogenic action in the body. As a result of a series of careful quantitative studies which were then conducted, Shaffer reached the following conclusion:

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*Read before the Kentucky State Medical Society, Louisville, October 21-24, 1929.

"From the results of these experiments it appears that if allowance be made for the amount of aceto-acetic acid oxidized by peroxide in the absence of glucose, glucose may accomplish the transformation of an equimolecular amount of aceto-acetic acid when reacting upon a large excess of keto-acid." Thus a great problem in chemical pathology was solved. (See Chart 1).

$$\frac{\text{MOLECULES OF KETOGENIC SUBSTANCES}}{\text{MOLECULES OF ANTIKETOGENIC SUBSTANCES}} \text{ OR } \frac{K}{A} = \frac{1}{1} \text{ OR } 1.0$$

MOLECULAR WEIGHT

PALMITIC ACID ($C_{15}H_{31}COOH$) ——— 256
STEARIC ACID ($C_{17}H_{35}COOH$) ——— 284
2)540
AVERAGE MOLECULAR WEIGHT OF FATTY ACIDS ——— 270
GLUCOSE ($C_6H_{12}O_6$ MOLECULAR WEIGHT ——— 180

$$\text{MOLECULAR WEIGHT OF FATTY ACIDS} : \text{MOLECULAR WEIGHT OF GLUCOSE} :: 270 : 180$$

$$\frac{FA}{G} = \frac{270}{180} \text{ OR } \frac{1.5}{1.0} = 1.5$$

$$\frac{K}{A} = 1 \Leftrightarrow \frac{FA}{G} = 1.5$$

Fatty Acid Glucose Ratio

It is to be borne in mind that Shaffer, speaking in the language of chemistry, refers to the quantities of ketogenic substances and anti-ketogenic substances which react with one another as being equimolecular, i. e., the number of molecules of fatty acid and the number of molecules of glucose which react with one another are equal, or:

$$\frac{\text{Ketogenic Substances}}{\text{Anti-Ketogenic Substances}} = \frac{1}{1} \text{ or } 1.0$$

Woodyatt clarified this important conception and translated it into the language of clinical dietetics by pointing out that the average of the molecular weights of the commoner fatty acids (palmitic and stearic) is 270 while the molecular weight of glucose is 180 and that these molecular weights bear to each other a ratio of 1.5 to 1. Therefore, Shaffer's expression:

$$\frac{\text{Ketogenic}}{\text{Anti Ketogenic}} \text{ or } \frac{K}{A} = 1$$

is identical with Woodyatt's expression:

$$\frac{\text{Fatty Acid}}{\text{Glucose}} \text{ or } \frac{F\,A}{G} = 1.5$$

As a general rule it is found that when an individual metabolizes a mixture of foodstuffs in which the weight of the fatty acids is greater than one and one-half times the weight of the glucose, acidosis tends to develope as indicated by the presence of ketone bodies in the urine, whereas if the ratio of fatty acids to glucose is kept below the figure 1.5 this condition does not occur. We are confronted then with the task of ascertaining as accurately as possible the amount of glucose or anti-ketogenic substance and the amount of fatty acid or ketogenic substance which is derived from each of the three primary dietary ingredients: carbohydrate, protein and fat.

The sugar and starches are converted, in the process of digestion, wholly into monosaccharides. Therefore, the carbohydrates are considered to be 100 per cent anti-ketogenic.

KETOGENIC AMINO ACIDS IN 100 GM. OF MUSCLE PROTEIN
(OSBORNE'S ANALYSIS AS MODIFIED BY LUSK)

AMINO ACID (FORMULA)	GRAMS	MOLECULAR WEIGHT	GRAM MOLECULE
LEUCINE ($C_6H_{13}NO_2$	14.3	131	0.109
PHENYLALANINE ($C_9H_{11}NO_2$	4.5	165	0.027
TYROSINE ($C_9H_{11}NO_3$	4.4	181	0.024

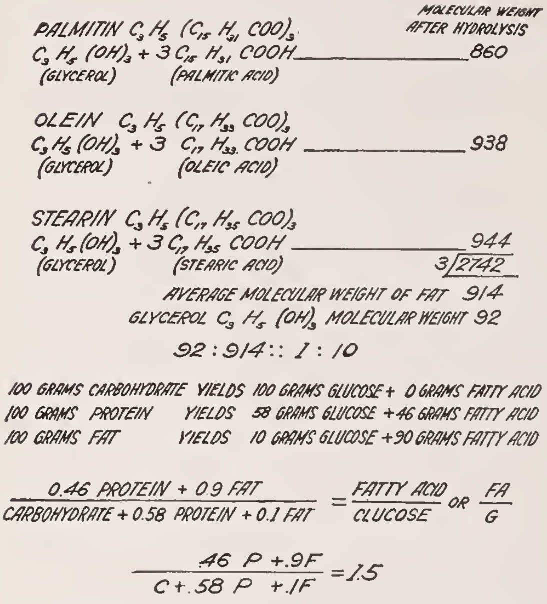
TOTAL KETOGENIC AMINO ACIDS 0.160 GM-MOLECUL.
ONE MOLECULE OF OLEIC ACID ($C_{17}H_{33}COOH$) MOL. WT. 284
1704
284
45.44 GRAMS OF FATTY ACID OR 46%

OLEIC ACID IS OXIDIZED TO:
BUTYRIC ACID ($CH_3CH_2CH_2COOH$)
WHICH IS FURTHER OXIDIZED TO:
BETA OXYBUTYRIC ACID ($CH_3CHOHCH_2COOH$)
WHICH IS FURTHER OXIDIZED TO:
ACETO-ACETIC ACID (CH_3COCH_2COOH)

AS ONE MOLECULE OF ACETO-ACETIC ACID IS EQUIVALENT IN KETOGENIC EFFECT TO ONE MOLECULE OF KETOGENIC AMINO ACID THEN 0.16 GRAM MOLECULE OF KETOGENIC AMINO-ACID IS EQUIVALENT TO 0.16 GRAM MOLECULE OF OLEIC ACID OR (0.16 × 284) 45.44

Protein is a source of both ketogenic and anti-ketogenic substances. (See Chart 2). The amino acids leucine, phenylalanine and tyrosine are converted into acetone bodies when fed to severe diabetics. They are therefore ketogenic. In 100 grams of animal protein there are 14.3 grams of leucine, (molecular weight 131) 4.5 grams of phenylalanine (molecular weight 165) and 4.4 grams of tyrosine (molecular weight 181). When these figures are converted into gram molecules (by dividing the grams of each amino acid by its molecular weight) and added together it will be found that 100 grams of protein contains 0.16 gram molecules of ketogenic amino acid. As each molecule of ketogenic amino acid is equivalent in its acidosis producing effect, and probably identical with, one molecule of aceto-acetic acid, then 0.16 gram molecule of ketogenic amino acid is equivalent to 0.16 gram molecule of aceto-acetic acid. Now it has been shown that aceto-acetic acid is produced from the higher fatty acids (such as oleic, palmitic and stearic) molecule for molecule. Therefore the 0.16 gram molecule of ketogenic amino acid would be equivalent to 0.16 gram molecule of aceto-acetic acid in respect to its ability to be formed from a higher fatty acid. If we assume the higher fatty acid in question to be oleic acid, which has a molecular weight of 284, then 0.16 gram molecule would be (0.16 x 284) 45.44 grams. This figure represents the fatty acid equivalent present in 100 grams of animal protein and is usually expressed in round numbers as 46 per cent. As Woodyatt states, "the nature of this estimation is such that considerable error is scarcely avoidable, but it affords a tentative figure that serves a practical purpose even though it may require correction in the light of further experience."

As to the anti-ketogenic or glucose equivalent of proteins this needs but little comment as it has been shown time and again on phloridzinized dogs that feeding them 100 grams of protein introduces into the metabolic mixture 58 grams of glucose. Included in the protein molecule there are also a number of amino-acids such as valine, lysine, histidine, tryptophan, etc. which are entirely neutral in so far as ketogenesis is concerned and may be neglected in the present connection.



MOLECULAR WEIGHT AFTER HYDROLYSIS

PALMITIN $C_3H_5(C_{15}H_{31}COO)_3$

$C_3H_5(OH)_3 + 3\,C_{15}H_{31}COOH$ ________ 860

(GLYCEROL) (PALMITIC ACID)

OLEIN $C_3H_5(C_{17}H_{33}COO)_3$

$C_3H_5(OH)_3 + 3\,C_{17}H_{33}COOH$ ________ 938

(GLYCEROL) (OLEIC ACID)

STEARIN $C_3H_5(C_{17}H_{35}COO)_3$

$C_3H_5(OH)_3 + 3\,C_{17}H_{35}COOH$ ________ 944

(GLYCEROL) (STEARIC ACID)

3 | 2742

AVERAGE MOLECULAR WEIGHT OF FAT 914

GLYCEROL $C_3H_5(OH)_3$ MOLECULAR WEIGHT 92

92 : 914 :: 1 : 10

100 GRAMS CARBOHYDRATE YIELDS 100 GRAMS GLUCOSE + 0 GRAMS FATTY ACID
100 GRAMS PROTEIN YIELDS 58 GRAMS GLUCOSE + 46 GRAMS FATTY ACID
100 GRAMS FAT YIELDS 10 GRAMS GLUCOSE + 90 GRAMS FATTY ACID

$$\frac{0.46\ \text{PROTEIN} + 0.9\ \text{FAT}}{\text{CARBOHYDRATE} + 0.58\ \text{PROTEIN} + 0.1\ \text{FAT}} = \frac{\text{FATTY ACID}}{\text{CLUCOSE}}\ \text{OR}\ \frac{FA}{G}$$

$$\frac{.46\ P + .9F}{C + .58\ P + .1F} = 1.5$$

As to the fats it will be recalled that in addition to the fatty acids there is a glycerol fraction which has been shown by Shaffer to be anti-ketogenic. This glycerol fraction comprises approximately one-tenth of the molecular weight of avarage fats while the fatty acids comprise the remaining nine-tenths. (See Chart 3).

Now if we tabulate these diet ingredients according to their glucose and fatty acid equivalents as Woodyatt has done we have the following:

100 grams carbohydrate yields in the body 100 grams glucose; 0 grams fatty acids.

100 grams protein yields in the body 58 grams glucose; 46 grams fatty acid.

100 grams fat yields in the body 10 grams glucose; 90 grams fatty acid.

The ratio between the glucose fraction and the fatty acid fraction may be expressed as follows:

$$\frac{.46\ \text{Protein} + .9\ \text{Fat}}{\text{Carbohydrate} + .58\ \text{Protein} + .1\ \text{Fat}} = \frac{\text{Fatty acid}}{\text{Glucose}}\ \text{or}\ \frac{F\,A}{G}$$

Assuming that the ratio of fatty acid to glucose, which if exceeded leads to ketonuria is 1.5 to 1 then we may further express this relationship by the following equation:

$$\frac{.46\ P + .9\ F}{C + .58\ P + .1F} = 1.5$$

PRACTICAL APPLICATIONS

As for the practical application of the foregoing facts, it is necessary, of course, to give each individual a sufficient amount of protein in order to keep him in nitrogen equilibrium. If he be in bed and receive sufficient calories from his total diet, then two-thirds of a gram of protein for each kilogram of his ideal body weight is sufficient. If he be ambulatory or engaged in one of the usual average sedentary occupations of city life and receive sufficient calories, one gram of protein per kilogram of his ideal body weight is sufficient. The amount of protein is therefore easily ascertained and forms the starting point of all diets. We shall assume that the patient in question is ambulatory and weighs 60 Kilograms (132 pounds). We therefore give him 60 grams of protein. The next step in planning his diet is to decide upon its glucose equivalent. Some clinicians prefer to begin with a diet having a very low glucose equivalent keeping the patient upon it until he becomes sugar free and then gradually increasing the diet until sugar is excreted. The last and most liberal diet upon which he remains sugar free represents his tolerance. Other clinicians prefer to begin with a diet having a glucose equivalent which is in all probability greater than the patients tolerance and reducing it gradually until sugar is not excreted.

Both methods have their proper place and he who would achieve satisfactory results must be guided in his choice of a method by the condition of the patient, especially with reference to his age, his general nutrition and the severity of his condition. The latter method will be illustrated in the example under consideration. We shall give this patient 60 grams of protein in a diet having a glucose equivalent of 120 grams and a fatty acid glucose ratio of 1.5. In order to ascertain the carbohydrate and fat in this diet the following calculation is necessary: (See Chart 4).

SOLUTION:

$$\frac{FA}{G} = \frac{.46\,P + .9F}{C + .58\,P + .1F} = \frac{180}{120}$$

$$\begin{aligned}
(.46 \times 60) + .9F &= 180 \\
27.6 + .9F &= 180 \\
.9F &= 180 - 27.6 \\
.9F &= 152.4 \\
.1F &= 16.9 \\
\underline{F} &= \underline{169 \text{ GRAMS OF FAT}}
\end{aligned}$$

$$\begin{aligned}
C + .58\,P + .1F &= 120 \\
C + (.58 \times 60) + (.1 \times 169) &= 120 \\
C + 34.8 + 16.9 &= 120 \\
C &= 120 - (34.8 + 16.9) \\
C &= 120 - 51.7 \\
C &= 68.3 \text{ GRAMS OF CARBOHYDRATE}
\end{aligned}$$

$$\begin{array}{lrl}
\text{CARBOHYDRATE} & 68 \times 4 & = 272 \\
\text{PROTEIN} & 60 \times 4 & = 240 \\
\text{FAT} & 169 \times 4 & = \underline{1521} \\
 & & \ 2033 \text{ CALORIES}
\end{array}$$

This calculation may seem at first glance to be rather difficult but as a matter of fact it is quite simple and can be completed in less time than if some of the so-called short cuts or diet tables are used. We shall start our patient then on a diet consisting of carbohydrate 68 grams, protein 60 grams and fat 169 grams. (See Chart 5). As he excretes a considerable quantity of glucose on this diet we reduce it to one having a glucose equivalent of 110 grams, leaving the protein the same (60 grams) and the fatty acid glucose ratio the same (1.5). We continue this gradual reduction of the diet by steps of 10 grams in the glucose value until he becomes sugar free. This occurs at 80 grams. We then raise his diet to 90 grams whereupon he again excretes sugar so for all practical purposes we say that his tolerance is 80 grams. Now this patient needs about 1,800 calories or 30 calories per Kilogram of body weight in order to do his work, whereas his tolerance diet contains only 1,307 calories. In order to get this 1,800 calories he must take a diet equivalent to 110 grams of glucose which is 30 grams in excess of his tolerance.

DIET	CARBO-HYDRATE	Protein	Fat	Total glucose	Fatty Acid	FA/G	Calories	Calories Per Kilo.	Urinary Sugar
1ST	68	60	169	**120**	180	1.5	2,033	33.9	++++
2ND	60	60	153	**110**	165	1.5	1,857	31.0	+++
3RD	52	60	136	**100**	150	1.5	1,672	28.0	++
4TH	43	60	119	**90**	135	1.5	1,483	24.7	+
5TH	35	60	103	**80**	120	1.5	1,307	21.8	0
6TH	43	60	119	**90**	135	1.5	1,483	24.7	+
7TH	35	60	103	**80**	120	1.5	1,307	21.8	0
8TH	60	60	153	**110**	165	1.5	1,857	31.0	
				80					
			2)	**30**	Grams of glucose in excess of tolerance.				

Taken care of by **15** units of insulin daily or given a diet with a fatty acid glucose ratio of 2.25:

9TH	33	60	124	**80**	140	1.75	1488	24.8	0
10TH	31	60	148	**80**	160	2.00	1696	28.2	0
11TH	28	60	169	**80**	180	2.25	1873	31.2	0

Ten years ago such a patient was in an unenviable position. He had two alternatives: one was to remain on this low diet which is 500 calories less than necessary. In this case he would of course lose weight, which means that he would throw into his metabolic mixture a large but unknown quantity of his own body fat. This large amount of fat would so raise the fatty acid glucose ratio of the mixture being metabolized that he would suffer from acidosis. This acidosis together with his state of undernutrition would further lessen his glucose tolerance. He would soon become an easy prey to some slight infection or pass into diabetic coma. On the other hand he might take a diet which was 30 or 40 grams of glucose in excess of his tolerance. In this case he would gradually depress his tolerance as a result of over-burdening what ability he had to metabolize glucose so that eventually his tolerance instead of being 80 grams would be reduced to 20 or 30 grams. In such a case the ultimate result would be the same, i. e. the ratio of the fat being metabolized to the glucose being metabolized would be so high that acidosis and coma would inevitably occur.

At the present time our patient is not confronted with a choice of one of these two alternatives. Instead, we place him upon a diet containing a full 1,800 calories which has a glucose equivalent of 110 grams and give him insulin enough to metabolize the difference (30 grams) between his tolerance and his requirement.

HIGH FAT DIETS

There is still another alternative of which a certain number present day diabetics may avail themselves. This consists in taking a diet with a fatty acid glucose ratio of more than 1.5. In spite of the seemingly incontrovertible evidence that has been brought forward by Shaffer and Woodyatt to show that fatty acid glucose ratios above 1.5 are prone to lead to acidosis it must be remembered that Newburgh at the University Hospital at Ann Arbor has been managing diabetics successfully for 10 years on diets having ratios of 2.5 and higher.

The explanation of this is that patients become habituated to high fat diets and if they can also become accustomed to the taste and consistency of a high fat diet they can frequently dispense with the not wholly pleasant procedure of taking hypodermics of insulin. Thus in the patient under consideration the diet may be so adjusted that its protein content remains at 60 grams which is his requirement and the glucose equivalent remains at 80 grams which is his tolerance but the fatty acid glucose ratio is raised cautiously, first to 1.75 which gives him 1,488 calories, then to 2.0 which gives him 1,696 calories and finally to 2.25 which meets his requirement of 1,873 calories.

OCULAR MANIFESTATIONS OF DIABETES*

By Adolph O. Pfingst, M. D., Louisville.

At the request of your program committee I am going to endeavor to interest you in the ocular lesions as we see them in individuals afflicted with diabetes. However, I realize fully that as most of these complications are obscure and can be diagnosed only by one versed in the examination of the eyes, they are of scientific interest to the oculist rather than of practical value to the internist. It is also a fact that ocular manifestations in diabetes are not common in the ordinary run of cases, many of which occur in the young, in whom the more acute form of the disease prevails, which does not involve the eyes as frequently as the chronic disease of elderly individuals.

The frequency of ocular disease occuring as a complication of diabetes has been variously estimated from 10 to 20 per cent of cases. These figures represent reports of general hospitals and internists and not ophthalmic records which would naturally be made up of cases of diabetes with ocular complications and hence would be fallacious.

There is yet a discrepancy among oculists as to the relative frequency of the various complications met with in diabetes. Although cataract has usually been placed at the head of the list, considerable doubt prevails regarding the etiological relation between lens opacities and diabetes. In the cases which come on rapidly bilaterally in young diabetics, and the opacity develops diffusely under the capsule in the absence of a history of traumatism, the lesion can, with a reasonable amount of certainty be attributed to a disturbance of the metabolism of the lens based upon changes in the blood chemistry. However, when diabetes o fa more advanced age develop lens opacities there is no way of dissociating the senile elements from the case. Even though the greater frequency of cataract in diabetics as compared to normal individuals of the same age is conceded, the coincident prevalence of diabetes in cases of senile cataract must not be lost sight of. No doubt, many of the cases which are recorded as "diabetic cataract" are merely cataracts in diabetics with senility as the causative element. As far as is known there is nothing characteristic in the appearance of the lens opacity or in its clinical course to indicate its cause.

The result of surgical treatment of senile cataract would uphold the view that diabetes is frequently a coincidence rather than a cause of lens opacity.

The statement has frequently been made by some of the foremost ophthalmic surgeons that one could disregard the presence of sugar in the urine when contemplating a cataract extraction. Having never seen an infection occur after extraction in a diabetic subject my own experience would lead me to subscribe to this view as far as the surgical result is concerned, however, as far as the optical outcome is concerned, I am convinced that the ultimate results are much less favorable in these cases. The operation is more apt to be complicated with primary bleeding from the iris or retina in diabetics or post-operation hemorrhage may ensue. Such cases are also more prone to post-operative iritis. Any of these complications would undoubtedly influence unfavorably the functional result of the operation.

It is my custom to have patients afflicted with diabetes who are contemplating the removal of a cataract to keep themselves under the care of the internist for several weeks prior to the operation. When the sugar content has been reduced to its lowest I do not hesitate to operate. By choice, I do a preliminary iridectomy in these cases in the hope of lessening the probability of hemorrhage complicating the final extraction. Notwithstanding every precaution these cases may, even after a smooth uncomplicated extraction finally terminate in blindness or at least in a high degree of amblyopia. I can recall two such cases that happened in my practice in the last year. Both of these patients, one 65, the other 69 years of age, had a high blood sugar, both were treated for six weeks by competent physicians before the iridectomy and again for several weeks before the extraction. The lens was removed in each instance without incident, the wound closing normally. A month after the operation one of these patients had 20-50 vision, the other 20-70. In both patients subsequent hemorrhages occured in the retina, leading to total blindness in one and reducing the vision in the other so that the patient could just see gross objects.

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*Read before the Kentucky State Medical Association, Louisville, October 21-24, 1929.

It might be of interest to cite a case which was operated in which retinal hemorrhages had preceded the formation of cataract. As there was good light perception and fair projection in one of her eyes and as the patient by carefully watching her diet and habits had a low sugar content, she decided to take the chance of an operation. The lens was removed without incident and the patient made a normal recovery with the restoration of useful vision (20-50).

It is my conviction that the most frequent ocular manifestation of diabetes takes place in the retina. The most common lesion is known as central punctate retinitis, which occurs in the region of the macula where it manifests itself in the formation of numerous glistening white spots distributed wide of the macula and usually in an irregular circle or semi-circle. Sometimes confluence of several of these white bodies occurs, thus creating larger patches. These patches have not the woolly white appearance of the degenerated areas seen in albuminuric retinitis nor do the white spots arrange themselves in a stellate way around the macula as we see it in Bright's disease. A few minute hemorrhages are sometimes present in the form of retinal disease.

It is not uncommon in diabetics to find retinal hemorrhages irrespective of retinal spots or patches. They may be small, but often attain considerable size and they also occur as infarcts. It is interesting to note that retinal hemorrhages and vitreous opacities are a much more frequent complication of diabetes than of albuminuric retinitis. The hemorrhagic patches are well outlined, are usually irregularly circular in form and tend to extend in a wide circle around the mascular region, whereas the hemorrhages occuring in albuminuric retinitis are more irregularly scattered and outline is less defined as the blood often seems to extend in streaks into the surroundings giving them a more elongated shape. While these differences may exist in typical cases, I am convinced that it is usually impossible to differentiate by means of the ophthalmoscope between the two conditions. Cases of hemorrhagic retinae in diabetics are not infrequently complicated with secondary acute glaucoma.

Experience has shown that retinal lesions occurring in diabetes do so late in the course of the disease, usually after other serious complications have become manifest, hence the study of the eye ground is not of great value as an aid to easy diagnosis as it is in Bright's disease. Even though retinal hemorrhage is nearly always a late manifestation of diabetes and the prognosis as to life is unfavorable it has not the same serious prognostic significance as albuminuric retinitis when complicated with hemorrhages.

While diabetic retinitis or hemorrhage is seldom seen in the very young, a condition known as lipemia retinalis has been observed in early life. It is due to an increase in the normal fat content of the blood and is characterized by a milky discoloration of the retinal arteries so that they resemble in appearance the veins. Its presence is of a grave prognostic purport.

Of the less frequent ocular complications of diabetes, retrobulbar optic neuritis associated with a varying degree of amblyopia is perhaps of most interest. Outside of an occasional palor of the temporal half of the optic disc, the interior of the eyes gives no evidence of a lesion to account for the disturbed function. The perimeter often serves us in the diagnosis of these cases as many of them reveal a central blind spot (scotoma) of an otherwise normal field. This stresses the importance on the part of oculists who encounter cases of high degree amblyopia, especially when associated with a central scotoma to keep a careful eye on the sugar content of the urine and blood.

Alterations in refraction have frequently been noted in diabetics usually tending toward myopia or an increasing myopia where it preexisted. Rapidly increasing hypermetropia has also been attributed to diabetes.

Involvement of one or more of the extrinsic ocular muscles evidenced in a dynamic divergence or convergence are among the infrequent lesions observed in diabetes. Iritis may also be enumerated as an infrequent complication of the disease. It would hardly be possible to exclude toxins from other sources as etiological factors in these infrequent complications.

DISCUSSION

R. Hayes Davis, Louisville: Mr. President, Ladies and Gentlemen: I enjoyed very much hearing the papers of Dr. Speidel and Dr. Pfingst.

For some years, I have been particularly interested in the subject of diabetes owing to the fact that we do not encounter in medicine any disease that is more satisfactory to treat.

Diabetes, in the general case, is a clean-cut disease when it comes under treatment. There are certain rules that are specially laid out, and if those rules are followed and proper cooperation is obtained from the patient, then the disease runs a short course and responds most satisfactorily to treatment, and remains under control as a rule for an indefinite time provided that no complications are present, such as secondary changes in the heart muscle, nephritis, cerebral hemorrhages and other conditions which of course seriously complicate the case. Even in these cases, the diabetes can usually be properly controlled. Of course, the other diseases must be treated as one would ordinarily treat them.

Dr. Speidel mentioned in his paper that only twenty-five per cent of the patients require insulin. This is a point that I want to emphasize owing to the fact that it is the opinion among a great many of the laity that if they once begin the use of insulin they must always continue its use. This is a very unfortunate thing, because this keeps many patients from taking insulin when they would be greatly benefited by it.

This does not exist at all. In the first place, a large number of cases, as Dr. Speidel mentioned, do not require insulin at all. If the diet is scientifically regulated, the case will progress very satisfactorily. Those who require insulin can very frequently have the insulin diminished and discontinued entirely when the tolerance builds up to the proper point.

Insulin keeps the blood sugar normal, and if the blood sugar is kept normal, and if the patient's resistance and vitality are built up, naturally the tolerance is increased and the insulin can be lessened and in many cases discontinued absolutely after a certain length of time.

This, of course, does not hold with very serious cases of diabetes that do have to continue insulin the rest of their lives, but these same cases that do have to continue the use of it, if they do not take insulin, their lives would very likely be of short duration. So they are kept alive and in good health by the use of this very important remedy.

I am going to say a few words in regard to the diet, and I am going to try to make it as simple as possible. When one sees the ordinary description of the feeding of diabetic patients, it looks very complicated, and it is more or less complicated. If a simple method can be devised by which diets can be easily figured out, the cases could be managed by a much larger percentage of physicians who do not care to go into the scientific study of this disease.

There are various methods. I am first going to mention the method which I use, and I think it is simple although somewhat complicated, and then others that are still simpler. In the first place, I calculate the basal requirements of the patient. That is very easily done by means of a chart which is very simple. I have these charts one on this side and one on the other that are fastened together and can be referred to in a moment. (Showing of charts). As soon as the basal requirements of the patient are determined, we know at once how many calories to begin the treatment with. Then the protein requirement is very easily calculated because the average case requires one gram of protein for each kilogram of body weight. Children require more, running from two to three grams, depending on their age. People who have nitrogen retention require less, and they can get along on two-thirds of a gram of protein per kilogram of body weight.

As soon as that step is determined, the number of calories necessary, the protein necessary, then by means of the formula that Dr. Speidel described to you, it is very easy to calculate that particular diet for beginning the treatment. Although Dr. Speidel says his diet is very simple and easier than the charts, it does require a few minutes of figuring, whereas there are certain charts where all these formulas are figured out. It gives the protein, and the calories here, and immediately one can determine the carbohydrate and fat necessary. These charts can easily be made by simply taking a pen and ruling off a piece of paper, copying such a chart, and it can be kept available at any time.

Then when the patient is put on this basal optimal diet, as I call it—and by optimal diet it is meant the least quantity of carbohydrates that will metabolize the largest quantity of fat necessary to maintain the requisite caloric value of the diet—he is put on it for a day or two, and by taking a 24-hour specimen of the urine it can easily be determined how he is progressing. After twenty-four to forty-eight hours, I can determine whether he needs insulin or not. If he needs insulin, I give it and gradually increase the diet step by step until he reaches his actual requirement. If he doesn't need insulin, of course he progresses upward. At any time that he begins showing sugar, he must have insulin because this is the least diet he can possibly take and if he doesn't have insulin he will show sugar.

After the diet has been determined and after he has reached his maintenance requirements, oftentimes if he doesn't need insulin the carbohydrate can be raised and the fat lowered, because I believe it is an advantage to give as high carbohydrate as possible and as low fat, keeping the blood sugar normal. That can easily be determined.

In certain cases that show acidosis and acetone in the urine, symptoms of nausea, itching, and various other symptoms, by raising the carbohydrates somewhat these symptoms will often clear up.

A simpler method where one does not care to do any figuring at all can easily be found by taking these various diets that are arranged and already figured out for certain weights and ages. That can easily be done by beginning with the low diet, keeping the patient sugar free, raising him up to his maintenance diet which is usually about fifty per cent above the basal diet.. (Applause).

Virgil E. Simpson, Louisville: Mr. President and Gentlemen: I almost feel disposed to take the remark of the Secretary as my text when he intimated that the discussion that would follow would be intelligible, thereby implying that the discussion of the fundamentals Dr. Speidel presented in the first paper of this symposium was not intelligible.

I have said so many things, so emphatically, and so often concerning diabetes to the profession of this state that I almost hesitate to restate some of those things that to me are truisms.

I recognize in this first paper that has been read this afternoon just what its title implies, the fundamentals; nothing more, nothing less. If they are bewildering to your Secretary, then I think it behooves him and others to get down on their knees and pray for an understanding of something of the fundamentals that underly this condition. (Laughter).

One can't learn to treat diabetic conditions without study. One can't learn it in an ordinary medical discussion. One must study this thing just as the surgeon, who really is a surgeon, gets to be a master of technic. He can't learn it by textbook study, but he has to do the thing actually. One must get the fundamentals early fixed in ones mind if he expects to treat diabetes intelligently.

Diabetics will continue to die. One group will die because they develop those diseases that will produce death in any of us. Another group of diabetics will die because they become afflicted with diseases which because of their lowered vitality they are unable to resist. That is a rule that will apply to any chronic disease as well as it does to diabetes. The third group of diabetics will die because of the diabetes, and it is of those particularly that I want to speak.

Sixty per cent of the cases of diabetes that die because of their disease die of coma, and the groundwork of what coma means is embraced in what the essayist presented and unless it is understood disastrous mistakes in its management must ensue.

Coma means acidosis. It means imperfect oxidization of the fatty foods as has been illustrated and, as is well known, the way to avoid a condition of this sort is to have enough sugar metabolized in the body to take care of enough of the fatty acids to supply the body needs and thus preventing their accumulation. Thus coma is prevented.

Let us take a few illustrations and see what happens to patients. Not long ago I saw a patient admitted into a hospital for surgical procedure, and sugar was found from the routine urinalysis. The surgeon ordered a blood sugar to be done, and it was reported to be well above normal levels. On the chart of this case I was asked to see, appeared this direction: "Cut sugars out of the diet." Cut the sugar out of the diet? If one wants to establish coma in a diabetic, particularly the diabetic that has had it a long time, and particularly in the diabetic that is over-weight—and at some time or other three-fourths of them are—I know of no better way to bring on that coma than to cut out the sugar from the patient's diet. When you do that, you have left no flame in which the fatty acids can burn. When you do that, you cut down the food intake, the fat of the body will be metabolized, and from the body fat acids can be made just as sure as from eggs, olive oil or butter. When you say to the nurse, "Cut out sugar from the patient's diet," you have helped clear the runways for the launching of coma.

Another thing: A doctor called me on the telephone just a few days ago and said, "Dr. Simpson, what is the average dose of insulin?" What is the average dose of insulin? What is the average depth of an abdomen you are going to cut through, you surgeon? What difference does it make what the average depth is. You are going to cut through to the peritoneum. That is the answer to the dose of insulin. Each individual patient represents his own peculiar problem, and the dosage of insulin for that patient is determined solely by the patient's ability to metabolize the amount of sugar he must have to carry on. The difference between those two figures represents your effort to establish insulin dosage, but to say what is the average dosage of insulin is ridiculous.

I recall another case that happened just recently. A patient was admitted to the hospital, and the doctor said to the nurse, "This is a diabetic; put her on a diabetic diet." God save the mark! what is a diabetic diet? There isn't any such thing. A diet arranged for a diabetic should be, and is, a diet established wholly for that individual based on his age, his sex, his sugar tolerance, his exercise, and all of the other things that enter into the complex problem of what diabetes is and means.

Unless you get down to the fundamentals, unless you know what foods mean, unless you know what happens to them in the body, unless you understand these very simple things, you are in no position, in my humble judgment, to take up the management of diabetes.

J. A. Orr, Paris: There is one point that hasn't been mentioned in the discussion, a complication rather of the treatment of diabetes, and that is the incidence of acute infections.

When we have acute infections in a diabetic patient it changes the picture entirely. A patient almost always requires more insulin, and very often a change in the ratio of his carbohydrates and fats. These cases require very close attention. If you don't watch them pretty closely, they are going to get into coma before you know it because it is impossible to keep an active tab on the amount of insulin required and the amount of carbohydrate necessary to prevent acetone. In a great many of them it continually changes.

I have a diabetic in the hospital right now who developed a bronchopneumonia, and had a rather severe infection. This patient had already had his diet established and his dosage of insulin established, and was getting along very well. But after this infection developed, the ratio of carbohydrates didn't seem to take care of his fats by a great deal. His carbohydrates were increased and his insulin in proportion, and still his acetone would show up in spite of anything you could do; just a will-o'-the-wisp condition in which you had to be on the job all the time to keep abreast if it.

I wanted to call attention to this very important item in the treatment of diabetics. When they get acute infections, it is necessary to watch them very closely because the diet is going to have to be changed, and the insulin is going to have to be changed. (Applause).

J. W. Scott, Lexington: I wish to discuss briefly the diabetics who die of something else than their diabetes. Few diabetics today die in coma. Joslin has pointed out that the great menace of diabetes is arteriosclerosis; that diabetics develop arteriosclerosis very early. He believes that high fat feeding promotes this and has always, as you know, used relatively low fat, in sharp contrast to the teaching of Newburger and Marsh, Wilder, Woodyat and others. Root, who is one of Joslin's group made the statement within the last year or two, that no arteriosclerotic diabetic should be carried on a diet containing less than 100 gram of carbohydrate per day.

It is a fact, I believe, that this teaching of Joslin and his co-workers has been taken to heart by the profession and that most of us are using a higher carbohydrate percentage than we did three or four years ago. In those past middle life and particularly those with cardiovascular disease this percentage should be determined not chiefly by the patient's tolerance, but should be kept relatively high not hesitating to use sufficient insulin to take care of it.

If one follows this plan he will find that more than 25 per cent of his patients are taking insulin and this need not concern him. The care of the diabetic with insulin and the conduct of the case without it should be to the physician as the use of the right and left arm; to be used as occasion demands without previous commitment to the one rather than the other.

Though one is reluctant to emphasize the importance of relatively difficult tests yet it must be emphasized that blood sugar determination is necessary to the accurate diagnosis of diabetes. The tubes now to be had charged with sodium fluoride, make this test available to any one no matter how remote from the laboratory.

To those who must get along without blood sugar determinations, it is important to remember that the urine three or four hours after the heaviest meal is the one most likely to show sugar. The old practice of using the specimen passed on rising in the morning is responsible for countless failures to recognize diabetes.

F. G. Speidel, Louisville, (in closing): I want to thank the gentlemen who have discussed this paper so thoroughly.

Inasmuch as Dr. Scott has mentioned the subject of the high fat diet, I should like to emphasize one or two points with reference to that subject.

In the more or less hypothetic case I took to illustrate my remarks, I assumed that we had a patient who had a tolerance, (who was able to metabolize a diet) equivalent to eighty grams of glucose per day. That patient, to assume further characteristics, would need 1800 calories per day, which would be equivalent to 110 grams of glucose, a difference of 30 grams of glucose between his tolerance and his requirements.

Ordinarily, we assume that a unit of insulin will take care of about two grams of glucose. That isn't a hard and fast rule, but for the purpose of illustrating it will do. Therefore, this individual would probably need somewhere around 15 units of insulin. However, as you know, the taking of insulin is not wholly a pleasant procedure. If we care to, we might depart from the principles enunciated by Schaffer and Woodyatt, which limit us to a diet having a fatty acid glucose ratio of 1.5 and give him such diets as have been used by Newburgh and Marsh at Ann Arbor for the past ten years with complete success.

In such a case, we might give this individual in his diet 80 grams of glucose but raise his fatty acid glucose ratio to 1.75, which gives him 1488 calories; or raise it to 2.0, which gives him 1696 calories; or even raise it to 2.25, which would give him 1873 calories, which is the same number of calories present in the diet equivalent to 110 grams of glucose but having a ratio of 1.5.

In other words, by raising the fatty acid glucose ratio we can give him sufficient food and obviate the necessity of taking insulin, provided he can take a high fat diet and not show traces of acetone and diacetic acid in his urine. This can be done in some individuals.

With all due respect to Dr. Joslin, I feel he has not proven by any means that high fat diets cause arteriosclerosis.

Abnormal Complexes of Electrocardiogram in Coronary Occlusion — Moore and Campbell report a case that exhibited the signs and symptoms which accompany occlusion of a coronary artery. Certain changes also occurred in the electrocardiograms. If these curves are arranged in serial fashion, the alterations which are observed illustrate the evolution of the "coronary T wave" in the manner that Parkinson and Bedford proposed in their scheme; that is to say, the monophasic, intermediate and diphasic stages which they described can be detected. No other series of records was discovered in the literature on this subject which illustrate these stages so exactly.

THE SPLEEN AND ITS SURGICAL DISORDERS*

By J. Duffy Hancock, B. S., M. D., F. A. C. S., Louisville.

While the existence of the spleen has been commonly known for hundreds of years its nature, until quite recently, has been most baffling. This organ, the largest ductless gland in the body and a most prominent member of the reticulo-endothelial system, is familiar to all anatomically.

This bluish-colored, irregularly-shaped mass of tissue is placed high in the peritoneal cavity up against the left dome of the diaphragm. Its normal weight is about 200 grams and it extends from the 9th to the 11th rib and from one ince lateral to the vertebral column to the midaxillary line. The large superior and outer surface is termed the phrenic, the internal the renal and the anterior the gastric. Occasionally there is a basal surface in contact with the splenic flexure of the colon and so designated. Where these various surfaces meet each other double folds of peritoneum are given off forming the ligaments of the spleen. They are designated as the gastro splenic through which the blood vessels are conveyed, the lieno-renal, extending to the left kidney and the lieno-phrenic which is the true suspensory ligament binding the upper pole of the spleen to the diaphragm. It is this support which must be freed before the spleen can be delivered for surgical procedures. The nerve supply is derived from the solar plexus and the fibers accompany the non-anastamosing branches of the splenic artery into the substance of the gland which they first pierce at the hilum.

No organ is subject to more anomalies. Congenital absence has been but rarely demonstrated, however, accessory spleens or aggregates of splenic tissue are fairly common. The size may vary from a fraction of the normal to many times the usual size. The shape may even be lobulated. A movable spleen is one which has an unusual range of motion. If such a spleen becomes fixed in some abnormal position it is designated as a dislocated spleen. In transposition of the abdominal organs the spleen will be found under the right dome of the diaphragm.

Recently the histological picture has been much clarified. A rather well accepted present day view may be summarized as follows. There are two coverings enclosing the pulp. The outer tunica serosa is peritoneal and the inner tunica albuginea is fibrous and muscular giving off trabeculae which divide the spleen into lobes and lobules. The pulp consists of blood, blood vessels, pulp cells called splenocytes which are reticulo endothelial and phagocystic in nature, malpighian bodies which are germinal follicles for lymphocytes and ellipsoidal cells which line the terminal capillaries.

The physiology of the spleen is most interesting and rather obscure. Some of the functions attributed to it are accepted merely since they have never been disproved. It produces some lymphocytes as does all other lymphatic tissue; in the fetus it aids in the formation of red blood corpuscles; after birth its antibodies influence coagulation time of blood and regulate the real cell production by the bone marrow; it filters bacteria and inert bodies from the blood stream; it prepares red blood corpuscles for destruction and contributes to the formation of bilirubin and conservation of iron for hemoglobin. Since the gland has no external secretion and since the body mechanism is so distorted by splenic disease our knowledge has of necessity been derived from the subsequent blood changes of apparently normal individuals whose spleens have been excised after accidents causing irreparable damage. These changes include the following: a dimunition in the number of red blood corpuscles, a relatively greater decrease in percentage of hemoglobin, cucocytosis and eosinophilia, an increased resistance of the red blood corpuscles to hemolysis and a lessened tendency to hemoglobinuria and jaundice after administration of a hemolytic agent. These changes are all transitory and in a few months there is a return to approximately normal. This together with the fact that individuals found later to have had a congenital absence of the organ have been observed to lead rather normal lives has led some one to summarize the physiology of the spleen in these words, ''The spleen has no individual, indispensable function.'' Such is true for if there be some indispensable function it is quickly and completely assumed by other organs.

Most of the symptoms and signs of a diseased spleen are little more definite. Fever, shock and symptoms of anemia are not at all characteristic. Neither is the enlargement, tenderness or rigidity of the abdomen. There are, however, two rather definite diagnostic points both of which should be developed in the course of a complete physical examination. One is the change in the blood picture revealed by an ordinary count. In certain diseases this is nearly all that is needed. The other point is the detection of an enlargement of the spleen itself. So important is the latter that it will probably be worth while to discuss it at this time. On inspection one notes that an enlarged spleen buldges forward rather than into the loin, and that it moves with each respiration. Auscultation proves to be of little value. Percussion is slightly more helpful but there must be considerable enlargement to enable one to detect an increase in the normal area of splenic dullness which extends from the 9th to the 11th rib and from one inch lateral to the vertebral column to the mid-axillary line on the left side. X-ray and pneumoperitoneum are of some value in selected cases. Although the spleen must be about twice the normal size to be palpated satisfactorily this method of examination gives one most valuable information. The mass will be noted to have a sharp inner border which is characterized by the presence of one or more notches; the enlargement extends forward to the anterior abdominal wall rather than into the loin; there is no space for the examiner's hand between the spleen and the costal arch; and the mass will nearly always be found to remain to the left of the mid-line unless it extends downwards below the level of the umbilicus. There are several satisfactory methods of palpating an enlarged spleen, one of which is for the examiner to stand to the patient's right, face him, make downward pressure with the left hand on the lower anterior portion of the patient's left chest wall and dip the right hand further under left costal arch with each respiration of the one being examined.

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*Read before the Harlan County and Cumberland Valley Medical Societies, December 14, 1929.

Any mass invading the left upper quadrant and thought to be splenic may have to be differentiated from some of the following conditions: pancreatic cyst, kidney tumor, perinephritic abscess, growth in splenic flexure, fecal impaction, ovarian tumor, retroperitoneal tumor, sarcoma of stomach, pleural effusion, mesenteric cyst, or tuberculous peritonitis (with formation of mass in left upper quadrant). None of these will present the typical signs of an enlarged spleen as have been previously described but will give usually rather definite leads as to their identity.

A pancreatic cyst is round, smooth, generally in the mid-line, presents digestive symptoms because of pressure, transmits pulsations of abdominal aorta except in knee-chest position, and shows no characteristic blood changes.

A kidney tumor is round and without notches, buldges into the loin, has slight range of motion, rarely crosses mid-line, presents resonance over the abdominal part of the tumor, is not in close contact with left costal arch, and will usually have definite changes in the urine and genito-urinary x-ray findings.

The mass formed by a perinephritic abscess is more likely to be confused with a kidney tumor than an enlarged spleen. Its signs are rather like those of the former plus evidences of acute suppuration.

A growth in the splenic flexure is usually obstructive before it is palpable, has no definite shape or notches and is rather readily revealed by x-ray after a barium enema.

A mass of impacted feces has no definite shape, pits on pressure, is extremely movable and may cause an alternating diarrhea and constipation.

An ovarian tumor does not make contact with the left costal arch unless it does also with the right, the first and greatest enlargement appears in the lower abdomen, there is no movement with respiration, no sharp border and no notches, there is an area of resonance between the tumor dullness and the normal splenic dullness, and vaginal examination will show the tumor opposed to the fundus.

Retroperitoneal tumors are within the circle formed by the large bowel presenting a dull area surrounded by tympany and giving no evidence of movement with respiration.

A sarcoma of the stomach shows resonance over the tumor, change of position is easy, gastric symptoms are definite and the right border is usually to the right of the mid-line above the umbilicus. X-ray examination again proves of great aid here.

A pleural effusion gives a bulky sensation, appears to be deeply attached, does not move with respiration, presents definite chest signs and tenderness and disappears with aspiration.

Mesenteric cysts are movable, within the circle of the large bowel, present no definite blood changes and generally cause much pain and evidence of obstruction.

The masses found in the left upper quadrant in tuberculous peritonitis are usually multiple, seldom notched, have little motion, are accompanied by slight to moderate ascites giving a doughy feel to the abdomen and the patient shows a positive tuberculin reaction.

Other conditions might be mentioned but these are too rare to deserve consideration at this time.

When one is satisfied that a mass in the left upper quadrant is an enlarged and diseased spleen the problem is only half solved—for before treatment can be instituted a diagnosis as to etiology must be reached since all treatment surgical and otherwise depends upon that. We shall first dismiss those cases requiring non-surgical treatment and then more carefully consider those responding to surgery which generally means splenectomy since splenotomy, splenorrhaphy, splenopexy, etc., are mostly of only historical interest. We really have, then, three classes of splenic diseases to consider—those never requiring splenectomy, those occasionally requiring it and those usually requiring it.

One requires little medical training to realize the futility of excising a spleen which is the seat of a general anyloid disease, Hodgkin's disease, secondary malignancy or T-B. Then in this group include chronic lymphatic leukemia, polycythemia vera, congestion and inflammation, infarct thrombus, portal thrombosis, simple rickets, etc.

The next group includes those cases where considerable thought must be given before resorting to operation. Among this group are pernicious anemia, von Jacks anemia, Splenomyelogenous leukemia, abscess of spleen, malaria, diffuse syphilis, Gaucher's disease and cirrhosis of the liver.

Pernicious anemia is a disease familiar to all. Dyspnea, easy fatigueability, lemon-colored skin, red tongue, absence of free hydrochloric acid, combined with the high color index and presence of nucleated red cells in blood smear make the diagnosis usually an easy one. Splenectomy was formerly suggested in those cases where the bone marrow was not aplastic. Liver therapy, perfected during the last few years, has greatly decreased or entirely eliminated the cases where surgery has been indicated.

Von Jacks' anemia is a type that occurs in children. The spleen is markedly enlarged and the liver less so. While the red count may be down to one million the color index is below one. Congenital syphilis is present in about half the cases. Excision of the spleen is only rarely indicated since medical treatment alone or combined with transfusions will generally bring about relief.

Splenectomy in splenomyelogenous leukemia was formerly considered to be practically 100% fatal. This disease is another one of that interesting group of blood dyscrasias which can be diagnosed almost entirely by the differential blood count, since we find about 95% of the total white count which varies from 150,000 to 200,000 to be myelocytes or myeloblasts. There is a progressive secondary anemia and weakness and an unusual splenic enlargement which may at times show marked regression. While moving in cycles the course of the disease is chronic and tends towards a fatal issue. Recently excellent results have been obtained particularly at the Mayo Clinic, by using X-Ray Therapy to bring about a remission during which time operation is performed.

Abscess of the spleen is classified in this group not because splenectomy is not the ideal treatment but because of the fact that adhesions, dangers of peritoneal contamination, etc., often make splenotomy the operation of choice. Abscesses causing palpable enlargement of the spleen generally occur during the course of some acute infectious fever and are often mistaken for a relapse of the original condition. Diagnosis is based upon the appearance or reappearance of chills, sweating, fever, leucocytosis, and rapid splenic enlargement with pain and tenderness. In cases of doubt exploratory incision is to be preferred to aspiration.

Malaria and diffuse syphilis of the fibrotic type are of course general diseases usually responding to medical treatment. Occasionally there are persistently chronic cases unresponsive to such care. It has been found that such cases, if accompanied by splenic enlargement, will often yield readily after removal of the spleen which seems to offer a protecting harboring place for the organisms. Then too the secondary anemia will be improved.

Gaucher's Disease, which is characterized by the growth of cells from the reticulo-endothelial system, is, of course, not confined to the spleen alone. In rare instances splenectomy should be advised because the disease is so chronic and the chief symptom is the enormous enlargement of the spleen which will interfere with the function of other intra-abdominal organs and cause distress mechanically because of its size. The accompaning enlargement of the liver will also subside some after splenectomy.

The discussion of the group of cases where splenectomy is occasionally indicated is completed by the mention of cirrhosis of the liver. The rationale of such treatment in these cases is based upon the fact that the spleen furnishes 20% or more of the blood carried by the portal vein and that such splenic blood is quite likely to carry much irritative or toxic material. Elimination of the spleen at least causes a more diffuse or less concentrated distribution of these products.

We are now ready to conclude our study of splenic diseases (or diseases accompanied by splenic enlargement) with a consideration of those instances where splenectomy is usually or always indicated and where the results are often startling in their achievements. In this group we study rupture of the spleen, torsion of elongated pedicle, primary splenic tumor, hemolytic icterus, purpura hemorrhagica and Bantis' Disease.

In spite of its well protected position rupture of the spleen does occur and is rarely diagnosed. This rupture may be due to penetrating wounds or may occur subcutaneously. In the latter case it is due to external violence as a rule since spontaneous rupture is seen only where there is a large friable spleen pre-existing. The symptoms are similar in all types. There is sudden severe pain in the left hypochondrium which may be accompanied by a sense of tearing. Often there are sharp pains referred to the left shoulder probably due to irritation of the phrenic nerve. A case recently seen in consultation and correctly diagnosed presented this sign to a marked degree. In addition to the pain there are signs of internal hemorrhage varying in intensity with the amount of blood lost. The treatment is immediate laparotomy unless the initial shock is too severe. Hemorrhage in these cases is usually terrific and death occurs in the vast majority if not so treated. Transfusion before, during or after the operation is often necessary.

Movable or dislocated spleen presenting no other symptoms may usually be left undisturbed although it would seem wise to inform the patient of the condition and their potential danger. Torsion of the pedicle may often produce no symptoms, the latter probably arising from a thrombosis of the splenic vessels. When present they manifest themselves as severe paroxysmal pain, definitely localized tenderness, shock of varying intensity and later possibly peritonitis localized in that region. Splenectomy is the only treatment to be considered.

Primary tumors of the spleen may be solid or cytic, the latter being usually parasitic or traumatic in origin as there are, of course, no retention cysts possible. The diagnosis may be quite difficult and often not made until other organs are involved. If seen early removal of the spleen is indicated although occasionally aspiration of the cystic tumors may be deemed advisable.

Hemolytic icterus or hemolytic jaundice is a most interesting condition. Although rather rare many of you have probably seen a case or two in your communities. The outstanding features of the disease are splenomegaly, secondary anemia, and acholuric jaundice. The patients appear more jaundiced than sick. The jaundice which is not deep does not cause itching, slow pulse or clay-colored stools. The disease is usually congenital but a more severe type may be acquired. There may be no other symptoms than those mentioned and treatment may never be applied for. On the other hand there may be crises of pain, increased splenic enlargement, and profound anemia. While the cause is unknown there is a practically sure cure in splenectomy. Exploration of the gall-bladder should always be done at time of operation since associated trouble often develops there.

Purpura hemorrhagica is another disease of unknown etiology and here again for reasons not understood splenectomy acts almost as a specific. The most prominent characteristics presented by this disease are a marked diminution or near absence of blood platelets, a greatly prolonged bleeding time, as much sometimes as 50 to 60 minutes, and a tendency to spontaneous hemorrhages under the skin from the gastro-intestinal tract, or endometrium, etc. The former treatment was entirely medical with or without transfusions. The addition now of splenectomy to these measures regularly brings great improvement. There is cessation of the hemorrhages and a return of the bleeding time to normal. These changes are evidently not due to the blood platelets as there is no permanent increase in them.

The final disease offered so much by splenectomy is Bantis' disease. This is a type of splenic anemia of unknown etiology. It formerly included many conditions now diagnosed as separate diseases. There are four outstanding diagnostic points. First a simple enlargement of the spleen occurs, then an accompaning secondary anemia appears, followed in the last stage by cirrhosis of the liver, and there is great chronicity of the disease. The first stage presents no symptom except the enlargement and may persist for many years. In the second stage the symptoms are dependent upon the secondary anemia and consist of pallor, weakness, dyspnea and palpitation. Urine becomes less abundant and gastro-intestinal hemorrhages may occur but are more likely in the third stage where cirrhosis of the liver, ascites, etc., make their appearance. The spleen early in the disease assumes considerable size but shape and consistency remain about normal. The only satisfactory treatment is splenectomy and the mortality and end results are directly governed by the time in the disease that the operation is performed.

CONCLUSIONS

(1) Great advances have been made recently in the study of splenic disease.

(2) The two outstanding diagnostic aids are the indentification of the enlarged spleen and a study of the individuals blood.

(3) Excision of the spleen is indicated in many instances although it must be admitted that we do not know how the succeeding brilliant effects are brought about.

(4) Apparently perfect health is quite compatible with complete absence of spleen either congenital or acquired.

(5) Ruptured spleens must be promptly cared for.

Electrocardiographic Changes in Diphtheria. Nineteen cases of complete heart block occurring in diphtheria were studied by Stecher electrocardiographically. All terminated fatally. Heart block in diphtheria probably results from a toxic action on the conduction system which renders it functionally inactive or from an irritation of the ventricular muscle which results in the setting up of an independent ventricular rhythm wth a rate faster than that of the auricles. The two effects may occur simultaneously. Some of the effects of diphtheria on the cardiac mechanism simulate closely the toxic effects of digitalis. The opinion that digitalis is contraindicated in diphtheria is substantiated.

PROGRESS IN OPHTHALMOLOGY*

By Jesse H. Simpson, M. D., Louisville.

A recital of the progress of ophthalmology must necessarily be historical to a great extent, and for the most of these historical references I am indebted to Thomas Hall Shastid, honorary professor of history of medicine in the American College of Medicine.

The reason for such a presentation as this, is that it may be of some interest to you, and the firm belief that it is well to dwell at times upon past events in order to better analyze the movements of our present as well as to speculate and dream of the future.

The unknown countless ages which have passed since the birth of man, naturally circumvent any attempt to ascertain the first study of the eye. However, we do know that in the Code of Hammurabi, an Assyrian king about 2250 B. C., there is specific reference to loss of an eye opend with a bronze instrument and the penalties therefor. The inference is that the opening of abscesses situated well within the orbit was more or less common, else why the necessity of a law regarding such procedure.

Our next available reference to practice among the ancients is found in the papyrus Ebers and deals with the Egyptians about 1650 B. C., wherein is mention of blood in the eye, tear eyes, dimness of sight, blear sight, narrowing of the pupil, turning of the eyes, mounting water in the eye, and curving hairs. The teaching and practice were done by priests or priest-doctors in the temple or temple schools. Later, according to Herodotus, there was not only a distinction between the two, but that the doctors were separated into special fields of endeavor, and mentions this division as to the teeth, head, belly, internal disorders, and eye. Therapeutics of the time was intermingled with superstition and magic, and little is known of their surgery, either general or special.

In search of new truths we turn to Greece from the times of Aesculapius. Little is to be gleaned, however, except evidence of the influence of the Egyptians, and not until the time of Hippocrates. 460 B. C., does there appear a most decided advance, and that in particular attention being paid to anatomical study. Hippocrates describes the eye as having three coats and that they become transparent in front. He also noted the prognostic value of inequality of the pupils, strabismus and proptosis in acute disease.

Alcmeon of Crotona is credited as the first to introduce comparative anatomy. He discovered the optic nerve, but neither he nor Hippocrates knew its significance, yet they believed the source of sight was in the lens.

Close upon Hippocrates appears Aristotle, and while none of his writings are dedicated to medicine, he frequently mentions this subject, among which are those regarding the iris,—he observed that all irides of the new born were blue, that he was versed in optics, and his reasonings, in contradistinction to the views of his predecessors, that in regard to sight the object perceived excites motion which in turn acts upon that higher sense. He also speaks of the failure of accommodation in the aged.

About the time of Aristotle was the capture of Egypt by Alexander, a pupil and great admirer of Aristotle, who conceived the purpose of building the great city of Alexandria and dedicating a library within its confines to the advancement of science. This library did become such a mecca, and exerted an enormous influence upon medicine until its sack by the Arabs. It was here that Herophelis studied and described the retina and discovered the ciliary body.

The Rome of the time of Christ's birth attracts the attention, first because of the prolific writings of Aurelius, Celsus and their following. The outstanding figure is Galen, born in 131 A. D., and contributing to medicine perhaps the greatest heritage of all the centuries before and a thousand years thereafter. As regarding his anatomical researches, philosophical reasoning, of the physiology of the eye, and his general understanding of optics, blazed the trail for the splendid discoveries of even now.

Mesopotamia during the sixth century A. D., furnishes to ophthalmology Aeteus of Ameda. He discusses sixty-one distinct ocular affections in his writings both medical as well as surgical. However, it remained for Paulus of Aegina to elaborate upon the surgery of the eye during the seventh century A D.

About this time the capture and sack of Alexandria took place, and science in general lost the priceless accumulation of written facts in the burning of its library.

Strange to say the Arab in his ruthless destruction in turn carries on and contributes to the selfsame progress for centuries to follow.

Overlapping the ninth and entering into the tenth century an eminent ophthalmologist, Rhages, lived to be remembered as the first to mention the pupillary reaction to light. In this selfsame tenth century Abdul Ammar is to be remembered not only for his general writings upon this subject, but especially as the first to use suction in the removal of cataract, and while this procedure was not apparently popular in his time, neither was it mentioned again until 1846, when it was revived by Blanchet.

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*Read before the Louisvile Medico-Chirurgical Society.

Abdul Kosine, while Arabic in name, was a Spaniard, and died in Cordova in 1013. His Al Tasrif (the explanation), in the main a work on general medicine, deals specifically with treatment, both medicinal and surgical, of the eye, elaborate in description of technique and instruments used in at least twenty-three operations. The translation of this work into Latin is said to have exerted a tremendous influence upon European scientists to follow.

Alhazen of the eleventh century is credited with over two hundred works upon medicine. It was for him to improve upon the theory of Aristotle about optics, and demonstrate the fallacy of other writers preceding him, namely, that he proved for all time that rays of light eminated from the object seen instead of from within the eye.

Constantine Africanus is remembered best because of the bringing to Western Europe the findings of the Arabs through his translations into Latin.

The thirteenth century is memorable because of the first appearance of a nation, which was long after to do so much in furthering this selfsame progress. England produced Robert Bacon, 1214, who is the first to mention the use of glasses to aid vision. There is no available record of the first inventor of glasses. A Dominican Monk, Alexander da Spain, fashioned glasses about 1313.

It may be of interest to mention here that the bifocal lens was invented by our own Benjamin Franklin.

About 1300 the reputed greatest surgeon of the middle ages, Guy de Chauliac, was born. The fifteenth century gives Hieronymous Bruusch Wych, a distinguished surgeon of his time, and was the first known surgeon to remove metal substance from the eye with a magnet.

With Leonardo da Vinci's observations upon optics and his theory of the camera obscura, we travel from the fifteenth to the sixteenth century.

Berengaries of Carpi describes for the first time correctly the conjunctiva, and it is of interest while not relative that it was he who discovered the tympanic membrane and sphenoid sinus.

Vesalius demonstrates that aqueous humor is like water instead of like unto the white of egg as taught by the ancients, that the color of the iris depends upon its pigment, and demonstrated the convexity of the lens.

Fallopius disproved the teaching of Galen as to there being a retractor bulbi muscle. He described the levator palpebræ superioris, the superior oblique and the trochlear nerve.

Mauralycus goes further with the theory of optics as explained by Da Vinci, explains near sight and far sight as we know it.

In this century was Ambroise Pare, called the father of modern surgery, as far as ophthalmology is concerned, he is overshadowed by George Bartesh, the first to write a book upon this subject in the German language, and to remove an eye in toto.

The seventeenth century is notable in that it was to produce Fabricius who in a drawing, shows the true position of the crystalline lens. Also Fredrick Ruysch was to add his contribution to anatomy of the eye by describing the central artery of the retina and the ciliary nerve. William Briggs to describe the optic papilla. Leen von Laeck to apply the microscope upon tissues of the eye and in so doing, discover the layer of rods of the retina, the fibers of the lens and of the cornea, and is also credited with describing the capillary circulation thereby completing the work of Harvey.

Kepler and Snell on refraction, Christian Huggens inventing a successful method for grinding lenses. Shener's tests as to the indicies of the media of the eye, to measure the curvature of the cornea and that the mirrored image is reflected from the cornea instead of the lens.

In the eighteenth century appears Quarre Rolfinck, Bressean Maitre-Jan, demonstrating the true location of the lens as described by Fabricius, and causing a tempest in the teapot among the oculists of the day. It offers the first extraction of cataract enmasse by St. Ives, this, though, was a dislocated lens in the anterior chamber, but it paved the way for Jacques Davis to deliver the lens from its normal position.

St Ives' was the first accurate description of gonorrheal ophthalmia and the changes in the eye incident to variola. He knew of and used silver nitrate in treatment of the eye, and was the first to make injections into the anterior chamber.

Cheselden describes his operation for artificial pupil, and in 1798 Joseph Baer performed the first iridectomy as we know it today.

The nineteenth century naturally reaps a glorious harvest and stands forth a truly golden age. Definitely influencing ophthalmology, as all other branches of medicine, are the discoveries of Latour, Pasteur, Billroth, Renucci, Neisser, Ogston, Koch, Friedlander, Rosenbach, antisepsis of Lister, anesthesia, and the roentgen-ray.

With the microscope to aid the macroscopic study, many names appear to contribute their anatomical findings. The ophthalmoscope of Helmholz, 1852, made possible the study of the interior of the living human eye, to mark the pathologic changes seen, and to associate them with general disease.

Forrester in 1868 with his first perimeter producing thereby a field of discovery and application which has made its influence felt upon the diagnosis of things intracranial.

Interstitial keratitis was definitely associated with syphilis, and that ophthalmia neonatorum was certainly of gonorrheal origin. Disease of the iris, ciliary body, retina, optic nerve and choroid described.

William McKenzie recognized intra-ocular tension. Basedow and Graves with their observations upon exophthalmos. The Hutchinson triad, the Argyle-Robertson pupil. Bonnet introduced enucleation as the only means of combatting sympathetic ophthalmia.

In 1884 Kaller's discovery of cocaine as an ophthalmic anesthetic, and in this selfsame year the wonderful boon to humanity Crede's treatment of the eyes of the newly born. The use of mydriatics, the removal of metallic substances from the interior of the eye by magnet, operations new or improvements upon the old, accurate knowledge of anatomy, better conception of the physiology and disease of the eye, and best of all that the eye was not a thing apart but forever to be thought of as an intimately associated part of the body as a whole in health and disease.

The twentieth century is but just begun. It has given and promises much in progress of ophthalmology in its broadest sense. The twentieth century must necessarily pass on to succeeding generations much for progress. An increasing number are casting their lot in the field of ophthalmology. The medical schools and hospitals are dedicating more time and thought to its teaching. Education of the public to the early recognition of eye diseases naturally presents a larger field for discovery.

Already a better understanding of foci of infection has reaped a benefit in the treatment of ocular disease. Education of the blind is a step forward. Further study of the field of vision and its application to intracranial pathologic conditions. Operative interference in high myopia, enlargement and refinement in all operative procedures.

Incidentally as of interest, Barraquet's revival of Abul Ammar suction operation for removal of cataract. This was previously revived by Blanchet in 1846. More careful refraction and general hygiene of the eye.

I trust that this limited recital of events of the past regarding ophthalmology has been at least of passing interest and entertainment to you.

DISCUSSION

Samuel G. Dabney: I have enjoyed Dr. Simpson's paper very much and there is little to be said in discussing it. He did not allude to a very interesting procedure commonly practiced by itinerant charlatans in the middle ages. The operation was known as couching, and its object was to relieve patients suffering from cataract. These itinerants would visit fairs and other places where people congregated and there ply their trade. Their technique was to make pressure in the eye and thus force the lens downward and backward. Fortunately for the operator he soon left town. In some cases the result was total loss of both eyes. Couching should be mentioned in discussing the progress of ophthalmology.

I believe Wm. McKenzie was the first to direct attention to sympathetic ophthalmia about the middle of the eighteenth century. The essayist did not mention this, nor the discovery of astigmatism and its correction by an English clergyman Airy and the astromonical Young.

It was long after couching had been practiced for cataract that they began study to determine just what cataract was. It was thought to be a film which "dropped down" before the crystalline lens. In 1705 or thereabouts a oculist pushed the lens downward with the supposed film and then removed the eye. Instead of a film he found that the cataract involved the lens itself.

In 1745 the first extraction for cataract was performed by Daviel. From that time on, cataract has been recognized as a distinct entity and the treatment has been practically standardized.

I think the science of ophthalmology may be said to have begun in 1852 with the discovery of the ophthalmoscope by Helmholz. This instrument has not only shown us the relation of the eye to the nervous system and other organs of the body, but has taught us a great deal about disease of the eye itself.

In our own time we have had some inventions and discoveries which deserve notice. One of the first was cocaine. I was a medical student at the time. The discovery had then just been made by Karl Koller, in Germany. I saw cocaine used a number of times for operations. That was in 1884. Cocaine, therefore, deserves important mention in the progress of ophthalmology.

I think the astigmometer is also entitled to mention. I use it frequently and have found it an invaluable aid in measuring the degree of astigmatism. There are various patterns of the instrument in common use. Of course, it does not tell us anything about lenticular astigmatism, but it gives valuable information about ordinary cases.

The essayist did not mention retinoscopy or the shadow test, which I think is important. The retinoscope has a place.

Jesse H. Simpson, (in closing): I appreciate Dr. Dabney's discussion and agree with everything he has said. To write even a brief history of the progress in any department of medical practice would require a large volume. I merely selected a few items in the progress of ophthalmology that I thought might be of interest to you.

There is no doubt that the ancients suffered from cataract. I think that is what they meant by blear sight, water in the eye, etc. The couching operation for cataract was perhaps the oldest known operation for cataract. The ancients thought the cataract was in front of the crystalline lens as Dr. Dabney has stated. A description of the technique of the suction operation for cataract translated from the writings of Abdul Ammar, was just as clear as any description of operations we have today.

ENCEPHALITIS*

By James W. Bruce, M. D., Louisville.

Patient, a male child, A. W., Jr., aged seventeen months. Family history: father and mother living and well. Birth history: born by celiohysterotomy (Cesarean section); resuscitation uneventful. Feeding history: the baby had to be fed artificially from birth, because the mother had no milk. There was considerable vomiting shortly after birth which was controlled by the administration of atropine. Roentgen-ray examination of the gastrointestinal tract at that time revealed no evidence of obstruction anywhere.

During the first year the baby progressed satisfactorily. His weight was always about 1 pound more than the average. His appetite was good and the intestinal functions regular. He possibly had more intestinal gas than usual, but this was not sufficient to seem alarming.

Cod liver oil and orange juice were started when the child was four months old; cereals and soups were begun at six months. When one year old the baby weighed 21 pounds and was 29 inches tall. This is the normal weight for that age and height. At that time his appetite was normal and nutrition good.

Present illnesss: Shortly after the child's first birthday, the mother said he began to be fretful. He cried much of the time, particularly in the afternoon. After several weeks of afternoon crying, he began crying all day. His sleep was very restless and he cried repeatedly during the night. Physical examination disclosed no evidence whatever of disease. The temperature was normal, and the membrana tympani were intact.

Laboratory findings: Blood count, erythrocytes 5,340,000, hemoglobin 50 per cent (Tallquist), leukocytes 9,060; differential, polymorphonuclears 18 per cent, lymphocytes 79 per cent, transitionals 2 per cent, eosinophiles 1 per cent. The Wassermann reaction, on both blood and spinal fluid, was negative. Intradermal injection of tuberculin (1 to 1000 dilution) was negative in 48 hours; and intradermal injection of tuberculin (1 to 100 dilution) was also negative in 48 hours. Urinalysis revealed nothing abnormal.

The crying continued for about two months. At that time the child was placed in a hospital ward, with a number of other children, to observe his behavior under those conditions. Being the only child the possibility of a behavior abnormality was considered. After six days observation he was still crying almost constantly, therefore it was believed that a behavior abnormality should be dismissed as a diagnosis.

During his stay in the hospital, it was noticed that he slept more than a normal child. He seemed to be in pain and apparently liked to have his head rubbed. His temperature, blood picture and urine were normal.

After six days of observation it was decided to make further investigation. Spinal puncture was performed under chloroform anesthesia. The spinal fluid pressure was 20 mm. of mercury, which declined to 8 mm. of mercury after withdrawal of 10 c. c. of fluid. The sugar content was 67 milligrams per 100 c. c. Spinal puncture repeated three days after the first one, showed pressure of 70 mm. of water.

Roentgen-ray examination of the skull showed no widening of the sutures nor digital markings. Careful examination of the mastoid regions by the x-ray disclosed no evidence of disease. The eye grounds were normal.

A tentative diagnosis of encephalitis was made, because of the negative physical findings, the increased somnolence, and the marked irritability. This diagnosis was not considered positive because of the atypical nature of the symptoms.

After ten days in the hospital the child was taken home, and on that day he contracted a severe cold. He had a slight fever and marked intestinal disturbances (gas and diarrhea). After being home a week he developed otitis media. Both membrana tympani were incised. The temperature at that time rose to 102° F., which did not subside after bilateral myringotomy, but continued around 101° to 102° F. (by rectum) for two weeks. Blood count at this time showed 20,000 leukocytes and 65% polymorphonuclear cells. During this time the ears continued to discharge and the pharynx continued inflamed. At the end of two weeks a soft mass was discovered behind the right ear, and the diagnosis of mastoiditis (antritis) was made. Operation revealed pus in the mastoid antrum with some erosion of the bone. Since the operation the temperature has been normal and the intestinal disturbances are rapidly subsiding. The child seems more comfortable and cries much less.

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*Read before the Louisville Medico-Chirurgical Society.

Comment: The questions which naturally arise are:

(1) What caused the crying for the first two months of this child's illness?

(2) Did he really have encephalitis?

(3) Could a mastoid antral infection be so latent and slow in developing as to cause no symptoms for that long a period?

DISCUSSION

Jesse H. Simpson: When I first saw this child, five or six days before he was operated upon, both ears were discharging. There were no other visible signs of any trouble within the mastoid antrum. However, the tonsils were large and "boggy" and had become acutely inflamed. Perhaps, without any other physical signs, the elevation of temperature may have been due to the condition of the tonsils; yet the fever continued longer than would be accounted for by tonsillitis. The leukocyte count was then 18,000 with 60 per cent polymorphonuclear cells.

We continued to search for evidence of antral involvement, and last Saturday afternoon (January 19th, 1930) there was noticed some puffiness behind the right ear. The diagnosis of mastoidantritis with free pus under the periosteum was made, and a good prognosis from operative treatment given so far as complications then present were concerned. We made a postauricular incision and a large amount of subperiosteal pus was encountered. Retraction of the periosteum showed a fistula in the cortex practically over the mastoid antrum. How long it is possible for necrosis of bone to exist before rupture of pus into the subperiosteal area I do not know. The child had acute coryza followed by acute otitis media, and we know that in many such cases, after a certain length of time, pus develops in the mastoid antrum.

This child had no fever until after development of the acute coryza, but from that time on his temperature was 102° F. I saw the patient rather late, two weeks after bilateral myringotomy had been performed. It is extremely doubtful that he could have had middle ear disease for three months without manifesting any symptoms.

Gavin Fulton: The early symptoms exhibited by this child, as narrated so clearly by Dr. Bruce, would certainly induce the belief that the child originally had encephalitis. There is no good ground or reason for believing that there was a long standing mastoiditis as there were no symptoms referable to the mastoid antrum for a period of nearly three months yet he suffered great pain and was critically ill. Physical examination showed everything negative, and I cannot help believing that the child had a mild form of encephalitis in the beginning, and that the mastoid involvement was secondary to acute coryzal infection.

Samuel G. Dabney: I have frequently heard cases reported as encephalitis by men who know much more about the subject than I do. I am always skeptical about the diagnosis of encephalitis in the absence of symptoms referable to the eye. The majority of observers agree that in at least 80 per cent of cases of encephalitis eye symptoms are present. In the case narrated by Dr. Bruce the child's vision could not be tested, the child was too young for that, but there should have been some disturbance in movements of the eyeball, irregularity of the pupils, ptosis of one eyelid, some of the motor oculi muscles should have been affected. There were none of these; there was entire absence of eye symptoms. That fact makes me a little skeptical about the diagnosis of encephalitis. In every case where this disease is suspected, I always make a very careful examination to determine the presence or absence of eye symptoms.

I think this child had an infection of adenoids, one of those slowly developing, gradually increasing infections that finally involved the middle ear, and later the mastoid antrum. I do not believe we should speak of mastoiditis in young children; there is no mastoid in the child except the mastoid antrum. It is high in situation and more superficial than in the adult, it is covered by a thin plate of bone not thicker than blotting paper. In young children inflammation in this region might well be designated as antritis instead of mastoiditis.

My observation has been that the pus breaks through the thin plate of bone covering the mastoid antrum, and this process sometimes causes only meager subjective symptoms. I believe that was the route taken by the pus in the case reported. When the mastoid infection was relieved the child was soon well, there were no further symptoms of encephalitis. Convulsions or stupor may sometimes occur in babies who have infection of the middle ear. If we assume that the child had two separate diseases, it seems that after onset of the second one the first one became much better.

My impression is that the child had infection of the nasopharynx which gradually extended to the middle ear. After the performance of bilateral myringotomy the child showed rapid improvement. Despite the fact that both ears were discharging, a swelling appeared behind one ear indicating involvement of the mastoid antrum. At operation a considerable amount of pus was evacuated, the process having broken through the thin plate of bone covering the mastoid antrum.

J. Garland Sherrill: It is interesting to note in this case that the disease was afebrile in its course for three months, the child complaining only of headache. The pain may have been due to distension of the middle ear cavity from serous fluid. Tuberculous disease of the ear may persist for some time without producing any fever. I think the most logical explanation is that there was a mild inflammatory condition of the middle ear. Superimposed on this was the later acute suppuration of the middle ear. The fact that the child is recovering is proof of this proposition.

Wm. E. Gardner: As I understand during the preliminary illness of this child there were no eye symptoms and no fever. I agree with Dr. Dabney that the absence of cranial nerve involvement and the absence of fever would be against the diagnosis of encephalitis.

James W. Bruce, (in closing): I appreciate the generous discussion. It is difficult to understand how infection could exist anywhere in the body for three months without showing some physical signs. Whether there was infection of adenoids I do not know. The child had no nasal discharge until he developed acute coryza, he had no physical evidence of infection so far as I could determine. There was no fever, no leukocytosis, both membrana tympani were normal, on repeated examination trere was no swelling behind the ear until three months after the beginning of the child's illness. If an infection was present there was no evidence of it anywhere.

Role of Skin in Treatment of Visceral Pain.— Sicard and Lichtwitz discuss the mechanism involved in the local intradermal or subcutaneous treatment of visceral pain. They reject the theory of the peripheral or the ascendent anesthetic action of cocaine, because not only anesthetic agents but even distilled water may check visceral pain on the condition that the corresponding skin area of the pain projection is well infiltrated. On the other hand, by section of the anterolateral white column of the spinal cord, performed experimentally by the authors, all pain below the site of the section was abolished. Therefore the authors explain the effect of intradermal injections by a local shock of the nerve endings, which is referred to the nerve centers in the lateral part of the spinal cord, through which also are transmitted the painful irritations from the viscera. If the referred shock is strong enough to inhibit the spinal nervous centres, the centripetal propagation of the painful irritation of the viscera is interrupted, does not reach the cerebral cortical centers, is not perceived by them and is not projected by them as a sensation of pain into the corresponding skin area (dermatome). Thus the pain is not felt.

WHAT THE PUBLIC NEEDS*

By S. S. Amerson, M. D., Georgetown.

Mr. President and Gentlemen of the Scott County Medical Society: It is not of volition I am before you this afternoon, but by the persuasion of our august secretary and committee on program, so lay not the punishment you are about to receive to me, but him.

Gentlemen, I am far from thinking that I am able to bring one new fact to your minds, or in any way enlighten any member of this Society in any medical line; only hope to direct our minds along a line of thought now engaging many public, as well as medical minds.

May I remind you this afternoon of a question that was asked back in the Prophesy of Micah, What doth the Lord require of us? It was asked because it was an old question in that day, so old the author had become dissatisfied with current answers and felt that a new one was necessary.

Also the question, What is expected of the doctor by the public today? All know the answer is to get them well; the new answer should be keep them well. We never see them till they are sick and oft very sick, therefore, we can only get them well instead of keep them well. Let an epidemic of Influenza or Poliomyelitis sweep across the country or a catastrophe world war overwhelm the nation, and all our altruistic emotions are excited to the ignition point. We subscribe millions for the healing of human disease and suffering. Great philanthropists have given hundreds of millions to great medical institutions to carry on the work of healing, and but little for prevention. Under our present system, healing is carried on after disease has appeared. The fundamental fact of all disease is, that disease is the failure of health and the one way to prevent such failure is to build and maintain health.

The fundamental facts of health maintenance demands universal consideration. Over 1,800,000 children are born in the United States every year; all of them, will and, do contract diseases; only 1,500,000 of them at present status will reach maturity. All these may and should be taught how to prevent disease, thereby postpone death.

More than two-thirds of all drugs sold are patent medicines and not of the proper prescriptions. 1,500,000 children can, and should be taught to care for their health while it is health and not after it has decayed. A baby that costs twenty-five dollars to be brought into the world, with the physician at the bedside of the expectant and lying-in mother, mid-wives fast disappearing; why can't the mother, father and even the children be taught the efficiency of health preservation?

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*Read before the Scott County Medical Society.

One of the great obstacles in this teaching is ignorance on the part of so many that think the doctors are working for their own self-gain instead of the real benefit of their patients; therefore it can better be done through another medium, that of our public schools.

First: That the great work done in eliminating yellow fever, smallpox, typhus fever and hookworm, have been by arousing the intelligence and activity of the nation as a whole against these diseases.

Second: That if nation resistance can wipe out these diseases, then an aroused national intelligence can and will combat and alleviate many other dreaded maladies.

Third: In the absence of impending national calamities, such as a threat of plague, the only medium for reaching and arousing the national intelligence is our schools and the only agency in the schools are the teachers.

Fourth: The adequate teaching of health depends so much on the teachers knowledge of the subject, and proper teaching methods and facilities, obviously the natural distribution centers of health education are the teachers colleges and normal schools which prepare public school teachers and they must be equipped in teaching methods and technique.

Fifth: But behind the teachers colleges and normal schools must stand another agency, the one which will do the fundamental work in preparing the teacher for the teachers college and normal school and other high administrative agencies of public education, till this is done no foundation exists for national health success.

Sixth: This must come from our medical schools and medical men who know the actual underlying principles and facts and how they should be brought out and set before the people.

When the public are educated to observe health rules we can combat the great white plague, Tuberculosis, and many other great maladies that annually sweep away thousands of our citizens. When people are educated to visit the doctors office while in health, to conserve health, then cancer will be early diagnosed and proper care given ere it is too late. Just so with all diseases that run a lenghty course, which means the conservation of health, more active citizens and longer life.

THE PASSING OF THE COUNTRY DOCTOR*

By J. H. Hendren, M. D., Straight Creek

Within the past few years the lay and medical press has time and again stressed the fact that the doctors of this country and the world at large are being reduced in numbers year by year. Statistics compiled from many different sources prove this to be true. And more especially is this true of the rural physician, known to the world as the "Country Doctor."

It is not within the scope of this paper to prove that the country doctor is becoming less and less in numbers every year. Statistics have proven that over and over again and again, and, so far as this paper is concerned, we will accept the statement as an established fact and pass to the discussion of other things. The question, as I see it, is not, "Is the Country Doctor passing out?" but, "What is causing the Country Doctor to pass out, and what is the remedy, if remedy there be?"

Until you have made a diagnosis of a case, it is pretty hard to outline the treatment. What is the real cause of the decreasing ranks of the country physician? When we put this question to the various learned men who ought to know, their answers are as varied as the persons interviewed. Like the six blind men of Hindustan, who went to see the elephant, each sees it in the particular way in which it appeals to him, and in no other. One says that the requirements for medical graduation are too high and ought to be reduced. Another says it is because the young doctors are too high-toned to live in the country and want to live in the towns. Another will tell you that, due to better living conditions, outdoor living, health magazines, fresh air funds, etc., the world is growing physically better, and doesn't need so many doctors. And still another says that the high standard of living has made it impossible for a young doctor to go into the country and build up a practice. Each of which contains a measure of truth, nevertheless is not the whole truth.

A study of the question reveals the fact that not only in the United States but in Europe and South America as well, is there a shortage of physicians. The causes, then, must be general instead of local; or at least general insofar as the more civilized nations are concerned. It is not within the scope of this paper, however, to discuss foreign conditions, but rather to discuss those we see at home.

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*Read before the Kentucky State Medical Association, Louisville, October 21-24, 1929.

It is perfectly just and proper for any man to discuss any question that may interest him; but that man only who lives with that question, who meets it daily face to face, can discuss it understandingly from every angle of the game. Having been naught but a country doctor for twenty-five years, and having wrestled with these same questions day by day, it is not necessary for me to put myself in the other man's place. I am already there, and I feel that I can see some phases of the situation that the more learned city man passes lightly by as unimportant to the question at issue.

The more enlightened and better educated human minds may be roughly divided into three great classes: the business mind, which follows the financial trend of things; the scientific mind, which goes to the bottom of things; and the artistic mind, which looks for the musical, poetical, and beautiful things of life. The doctor, by the very nature of his work, mind, and training, has a scientific mind. By the very nature of his work, mind, and training, the doctor is unprepared to look after the financial side of his affairs. A large per cent of the doctors of this country are financial failures. The doctor who combines the financial and scientific minds, is indeed a rare bird.

Statistics have time and again shown that the average doctor in the United States collects but fifty per cent of his outstanding accounts. More than half the babies born in the State of Kentucky every year are unpaid for. If any business organization loses twenty per cent of its accounts, it goes upon the financial rocks, and that quickly. A doctor, however, loses fifty per cent of his accounts, and still must stand the gaff. There never was a time when the average country doctor could live by his profession alone. He always carried a side line, either farming, or his wife's relations, which has enabled him to keep his head above the financial maelstrom. In the good old days when the country doctor took his pay in goose greese and molasses, he was able to muddle through. But goose greese and molasses have ceased to be legal tender, and he is compelled to look to something else.

Perhaps, then, the first and best cause for the constant diminution in the ranks of the country doctors, is the lack of sufficient remuneration; or, more tersely expressed in "Better pay in other lines of work."

When a young man, just out of high school, begins to look around for a vocation and finds that the mechanic, the bricklayer, the railroad man, the street car man, the auto man; in short, the butcher, the baker, and the candlestick maker, all get more money, with less work, shorter hours, and better living conditions, than the doctor, it doesn't take him long to choose some other line. The real cash income of the average country doctor is shamefully, yea tragically, low, for the work he is called upon to perform and the hours he has to meet. The city doctor, on the other hand, fares better. He can and does lose by his city patients, but when the country man goes to the city doctor he generally has the long green in his jeans to pay the bill. Human nature, like water and electricity, seeks the path of least resistance, and when two courses are laid before a young man he chooses the easier one, as readily as water runs down hill.

One cause for the ever dwindling of the ranks of the medical profession, and one not generally understood, is the very nature of the profession itself.

Medicine is an altruistic profession, a self eliminating business. All true and honest doctors are striving for the one goal, a sickless world. The nearer and nearer we approach that ideal, the less and less becomes the need for doctors. The good and worthy doctor cheats himself every time he does a good job. He cleans up the dirty sewer system of his town and loses a hundred potential typhoid cases; Jenner discovers vaccination and loses millions of smallpox cases for all the profession who follow in his footsteps. Within the past 25 years two diseases, namely, typhoid and malarial fevers, which formerly furnished a large and dependable source of income to the general practitioner, have been brought so far under control as to be of negligible importance, financially, to the physician. All of which is pre-eminently good and proper, and in perfect accord with the high and noble aims of the profession. The seeds of this altruism have been sown through all the ages, but it is only within recent years that it has borne the ripened fruit.

That the world is growing physically better is undeniable. The expectancy of human life is lengthening year by year. This is due partly to the doctor and partly to better modes of living, better sanitation, better understanding of the vital laws of health. All of which in the long run devitalizes the need of doctors. The building of many hospitals concentrates the sick and afflicted under the treatment of a few physicians, where before many were needed. The patients of the country are immediately moved to the city hospitals, and the country doctor passes out of the case. Most of the doctors and many of the laity realize that this is an elimination race and the weaker one must lose. In this case the weaker one is the country doctor, and he is losing. When the present country doctor passes on to his reward there will be none to take his place.

Still another cause for the decreasing number of doctors, and one that can not be overlooked, is the ever increasing number of damage suits that are being constantly filed against the medical profession. In the State of Kentucky alone, malpractice suits have increased more than two hundred per cent in the last twenty years, notwithstanding the fact that the number of doctors has been constantly decreasing. This is merely a sign of the times, when people are taking every advantage of any opportunity to get easy money. It has reached the point where no doctor is immune. His character, his reputation, his life, all stand for naught. When a prospective medical student sees his old family doctor, in whom he has the utmost faith since childhood, squeezed by the talons of the law, and the savings of a life time swept into the discard, his faith in the profession begins to waver, and he begins to look for some other vocation. No young man can look forward with any degree of pleasure to a life work which keeps him constantly on the edge of a seething volcano.

Another cause for the constantly diminishing ranks of country doctors is free medical service. You can lay it down as a cardinal principle that "so long as people can get medical service free, they will never pay money for it." Charity clinics, charity hospitals, charity nurses, charity this and charity that, until the taxpayers are beginning to groan under the load. Dr. Newspaper is having a wonderful practice just now. You can get your ailments completely diagnosed and treatment outlined, all for a two cent stamp, and you can borrow that from the corner drug store. Insurance companies have been particularly aggressive along this line. Charity is a crutch that the weak lean upon, and in the end they refuse to walk without it. And, furthermore, you can lay it down as another cardinal fact, "Those who demand the most, pay the least."

It has been the policy of State Boards of Health to institute free clinics, free treatment, free this and free that, until the average country doctor has about as much chance for a livelihood as a one-legged man at a foot race. If some poor sap goes out into the woods and scrapes the inner bark from a white walnut tree, gives it to his neighbor, and charges him a quarter for it, he is hauled up before the august minions of the law and sent to the penitentiary for thirty years for practicing medicine without a license. But under the protecting wing of a State Board of Health, a male nurse can open up an office in the court house square, give salvarsans and neo-salvarsans, treat anything that comes along from sore toes to diphtheria, and he is as immune from prosecution as Nebuchadnezzar. And the public is soft soaped into the idea that somebody else is paying the bill. Don't you believe it. The doctors of this generation are footing this bill just now, but the sick and afflicted of a future generation are going to pay it back with compound interest and usury. It is just and proper for a State Board of Health to look after the sanitation, preventation, and public welfare of a community; but when that State Board enters into the actual practice of medicine, in my opinion, it usurps a power that no legislative body ever intended it should have. The unfortunate side of the whole matter is that it leads people to believe, or at least to pretend to believe, that all medical service should be free, and that people pay their doctor bills when they pay their taxes; or because one doctor can give free medical service, all other doctors should follow suit as a matter of business competition.

Another reason which perhaps ought to be mentioned in passing is the ever increasing entanglement of legal red tape that is being thrown around the medical profession. It has reached the point that a doctor can not leave a dose of morphine with a patient without consulting Uncle Sam. A doctor is no more responsible for the therapeutic and habit forming properties of alcohol and other drugs than he is for the wetting properties of water, or the burning properties of fire. Yet because of these properties, hysterical reformers would reduce a high and noble profession to the level of a bootlegger. If a prospective doctor is to be forever tied up in the law, why not study law in the beginning and be done with it?

Another and far more reaching reason for the passing of the country doctor is the fact that for the past generation there has been a marked tendency to "consolidation" in every branch of rural life. Consolidated schools, consolidated churches, consolidated markets, consolidated post offices, pooling of this and pooling of that: until the real country life, habits, and customs of other days have passed away. In any of the more settled rural districts of the nation, a farmer living ten or fifteen miles in the country has his post office at the county seat, his mail delivered at the front gate. His children go to school in town, his church membership is in town, he buys in town, he sells in town, and when his family gets sick he calls a doctor from town; in fact he lives on a hundred acre town lot in a town just a big as his county. All of which is made possible by the use of good roads, automobiles and telephones. 'Tis true that the city doctor can hop into his high powered benzine buggy and make a fifteen mile call and back again before the country doctor can get the call, three or four miles away. So in the end the country doctor is compelled to move to town to get the very same practice he formerly had in the country; and, paradoxical as it may seem, these very same patients pay him a good stiff fee for the very same service they aforetime refused to pay for at all. There is a firmly rooted belief in the minds of all country people that anything that comes from town is better than the common garden variety, whether it be medical service or cotton sox. Furthermore, they are always willing to pay more for it, and pay cash on the spot.

Nor is this moving to town confined to the doctors alone. According to the published statistics of the Department of Agriculture, 1922, 460,000, in 1923, 527,000, in 1924, 679,000 more people moved from the country into towns than moved from the towns into the country. The Post Office Department announces that from 1917 to 1922 two thousand three hundred and ninety-eight rural post offices were discontinued in the United States. Notwithstanding the fact that a great "Back to the Farm" movement has been going on all the time, the drift has been increasing in the other direction.

Do not think for an instant that I am trying to belittle the onward march of civilization. I am only endeavoring to show that the country doctor, like the tallow candle, is the victim of circumstances, a mile post in the march of human progress, which must be passed and soon forgotten.

So far as I can see, there is no immediate remedy. The proposed plan to reduce the graduation requirements of medical schools would do no good and much harm. No branch of science, not even electricity, has made such rapid advancement in the last twenty-five years, as medicine. This advance has been so rapid that not even the most learned doctors can keep abreast with all of it. This, more than any other one thing, has been the cause of the rapid increase of specialists. Even the general practitioner of today is as much a specialist in his line as the nose and throat man or the surgeon. To take a two year high school boy, run him through a two year diploma mill, and turn him loose on the trusting public as a doctor, is more than a comedy, it is a tragedy. Furthermore, the public will find out sooner than he does that he is totally unfitted for the job, and continue to patronize the better prepared physicians, as they do now. The unchangeable law of the survival of the fittest applies here as everywhere else, and will continue to apply so long as life in any form exists on this planet. It may be that the reduction for the requirements for a medical degree would make a medical course more attractive to a young man at the beginning; but who and what is going to make it more attractive for him in the end, and that is what counts. Tear down the present standards of medical education, if you will, but will the public stand for it? There's the rub. Personally, I don't think they will. You can lead a horse to water, but you can't make him drink, and you can lead a patient to an inferior doctor, but you can't make that patient swallow the pills. It is an easy matter to change the requirements of a medical degree, but it is a very difficult matter to change human nature, or to apply the brakes to the wheels of progress, and there is where the principal change must be made if such a step is taken.

Day by day the cry goes out, "Beware of the Quacks." What is a quackdoctor, anyway? No more nor less than a man trying to practice medicine who is totally unprepared for the job he seeks to fill. The style in quack doctors, like the style in hats and shoes, changes year by year. Today it's one school, the public finds out there is nothing in it, and tomorrow it's another school. But for the medical profession to allow medical colleges to turn out hundreds and hundreds of half-baked quacks every year, with the seal and approval of medical authority upon them is to my mind the rankest inconsistency, and in the end can do naught but pull down the Temple of Aesculapius like a house of cards.

Three years ago a bill was introduced into the State Legislature to allow two and three year medical students to practice in certain restricted rural districts of the State, under the supervision of the State Board of Health. This bill failed, and rightly so. Who gave the State Legislature the divine right to say that the health and lives of those living in certain rural sections of the State were of less importance and value than those of the adjacent towns? By what process of reasoning does a State Board of Health assume that the medical requirements of rural residents are less than those of their city cousins? If these rural fields are really in need of medical help, such a law would add insult to injury. Nor is there any reason to believe that, except in the most remote and poverty stricken areas, the people would take kindly to the idea of entrusting their health and lives to a doctor who is denied the right to practice in other locations. Since these locations offer no assurance of a living income to a regular physician, it is difficult to understand how a physician of even sub-standard training would be content to locate in them, or remain in them when once located. In my opinion you might as well ask the rural residenter of average intelligence to go back to oxcarts and tallow candles as to ask him to go back to a lowered standard of medicine.

But why shed tears over the country doctor anyway? He isn't dead yet, not by a hell of a lot, and he may have more lives than a cat. Why all these legislative hysterics? The peoples of the civilized nations are getting more and better medical service, at less cost to them, than they ever got in the history of the world. The doctors of this nation have always taken care of the sick, and they always will. What matters it whether the sick country man goes to town,or the town doctor goes to the country, just so he gets the service? If the roads are good, the trip will be neither long nor hard.

These, in brief, are some of the causes for the "Passing of the Country Doctor;" and some of the causes we never see in print, for the simple reason that the city doctor who writes the articles either does not see them or considers them too insignificant to mention. The practice of medicine in general has been made unattractive to the rising generation as a profession, and the country doctor, being the weaker vessel, is the first to feel the blow.

The only solution that I can see to the problem at present is for every man who lives in the country to get out his pick and shovel, go to building roads, put in a telephone, and buy a car.

My conception of Paradise is, Plenty of Good Roads, and a Ford car; and if the good Lord will just keep the traffic cops out of the way, I shore will make that gold dust fly. And if those same good roads run through some beautiful place like Kentucky, it will be more than Paradise, yea, it will be Heaven itself.

Like the ox-cart, the reap hook, the country store, the country church, and the little red school house on the hill, the country doctor has served his place in the niche of time, and must step aside for the onward march of human progress, even though he be crushed beneath its wheel. But in his going he leaves behind a monument of service, of deeds well done, that time can ne'er erase. Hunter, the discoverer of the circulatiion of blood; Jenner, the father of preventative medicine; Morton, the discoverer of anaesthesia; McDowell, the father of abdominal surgery, were all country doctors. And when the last country doctor steps across the shadowy vale, he can look back over the land of his forefathers and proudly say, "I am content." Requiscat in Pace.

DISCUSSION

A. T. McCormack, Louisville: From time to time amidst the profound scientific discussions that always attract our attention, one of our thoughtful members comes before us with an invoice of our own general condition. We have had two this year. Dr. Gowdy's address last night and Dr. Hendren's paper today have put before us the most profound question that confronts either American medicine or the people of the United States, that is, adequate medical care of our country people.

Several years ago, at a meeting of the State Health Officers in Washington, the great state health officer of South Carolina, Dr. Adam Hayne, a descendent of the famous orator of the same name, said reminiscently as we traveled by car through the country to Washington from South Carolina, that he wondered how many of the statesmen upon Capitol hill had thought that if every city and every factory and every bank and every railroad in America were wiped out by some cataclysm, the country peope, who first discovered and built them, and maintained every one of them, and made every one of them a success, would immediately re-populate those areas and re-construct everything that had been destroyed.

"But, on the other hand," he said, "if our countryside were wiped out, those who are profiting by the labor of the farmer today in this world and living on him—and that includes the bankers, the teachers, the preachers and all of those who live in factory or industrial areas—the people of our cities would starve to death before food could reach them from the nearest shore. And, unless, and until, those in authority have been animated with a real and sincere desire to study the problem of the rural resident in America so that he and his children may be given equal opportunity with the industrial residents of this country, we have not begun to solve the problem of the continuity of American civilization."

These two thoughtful papers, by men who have given their lives, as shown by the very character of their lives in the things they have said, picture for us phases of the general problem of the countryside. As Dr. Hendren has so well expressed it and given the figures to show it, "the trend from the country to the city is so definite, and is increasing in such numbers, that it fills every student of economics with alarm."

In Kentucky, for example (and this is an extremely important matter for us to think about) our vital statistics are showing from our rural districts a constantly decreasing birth rate. The state registrar of vital statistics has recently been in correspondence with the local registrars, and the figures indicate a condition that fills us with alarm. Our citizens of child-bearing age, our young men and women, are going in such a constant stream to the industrial centers that the farmers and rural residents are mostly elderly people who no longer continue to bear children. This trend is so great that bus lines are now moving from many sections of this state to Detroit, Youngstown, Jackson, Lansing, and the other places where labor is needed. We prohibited the importation of labor from foreign shores. Like water, labor is seeking its level. As the demand increases, more and more young men and women are leaving the farms and small towns.

I am a country boy myself, and I am profoundly interested in this question. Just the very minute that rural life is made sufficiently unattractive to rob our state of its country people, we will be obliged to make a national park out of Kentucky or turn it back to the happy hunting ground found by our ancestors, and let the people of other states come down here for hunting seasons simply because there is not going to be anybody here to till the soil.

There are two great causes for this exodus of our youth. First, is the character of our general education. Our people came into Kentucky as pioneers over the mountains, working out their salvation by the hardest means in the world. They ruefully thought of the fortunate preacher, physician, lawyer and office holder back in Virginia and the Carolinas who did not have to work with his hands, and they attempted in a crude way to establish, from the very beginning, schools where their children could be so educated that they would become of this class. We have been too successful in that respect. Unfortunately the dignity of labor, the satisfaction of creating and constructing through the co-ordinated action of mind and muscle, fashioning useful things to make life more comfortable, more effective, the joy of growing living things in the earth—flowers, fruit, vegetables, grains or of developing fine herds of livestock—has been grossly neglected or omitted entirely in our scheme of education and our progress in well-rounded development is thereby handicapped. Many of the unsuccessful "square pegs" in the several professions would have made successful farmers or mechanics.

Our whole educational system tends to take the boy from the country and send him to the city,irrespective of his fitness or unfitness for city life. We filter him through the high school in the county seat, the college in the larger town, and the university in the city, or in a larger environment, and there filter him out into the industrial or professional world in such a way as to be skimming off the cream and shipping it away, and keeping the bluejohn at home. That is the whole tendency of the system, and to a considerable degree it has to be reversed if we are going to meet this great problem. Like the Confederate Army, Kentucky needs more privates and not so many Colonels.

The second thing, and the thing that has not been recognized to a suffcient degree, is the fact that under our artificial system of living in the cities, the sizes of families are decreasing. We find people in the cities who were never meant to be city dwellers. If those of our number living here in Louisvile will be thoughtful about it, they will realize that there are very few families that have been in Louisville for more than three or four generations. The very character of municipal life tends to decrease, first, the size of the family and, second, the vitality of the family, so that city families are rapidly being permanently eliminated from the assets of civilization unless they move back to the soil either in Kentucky or some other state. Educational advantages for the country youth are imperative.

We must devise plans by which the opportunity for the development of the mind shall be available to the country resident in exact equality with the city resident. We must devise plans by which the health of the country man will be just as thoroughly and just as well considered as the city resident.

Those of you who have read the recent report of the Council will realize, and many of you know of your own experience, the history of the development of medical standards in Kentucky. Following the Civil War, anybody who went to a medical school and paid his fee was graduated. We know as a matter of actual record between 1867 and 1904, that almost without exception every man was passed who paid a fee to any one of the sixty-nine schools in our own town, which produced most of the doctors for the South and West during all those years. If they failed to pay the fee, they did not pass. It made no difference whether they were Russians or Turks. The medical profession, our group, understood it and knew the only chance for education was in that institution. Something, no one at first knew what, something had to be done to improve the standards of medical education. Those who succeeded, succeeded by the trial and error method.

In 1904, conditions began to change because of our demand. The medical profession itself did it. We are the fellows who did it, and we are the fellows who are going to do anything that is going to be done to solve this problem that Dr. Hendren is raising today. When we raised the standards, we raised them, just as he said. There is absolutely no more chance of turning back the clock of time and returning to lower standards for medical education than there would be to stop the tides or keep the moon from passing on its course in the night. No legislature, nobody can do it.

Mr. Blackerby, before the House of Delegates, brought out very clearly, night before last, the careful study he has made of this subject, and he said that, except for those who were patronizing the chiropractors and other cults, he found no demand in any part of the state of Kentucky, rural or municipal, and no suggestion on the part of any thoughtful citizen for any lowering of the standards or of any other method of making it easier to become lower-grade doctors.

In Kentucky in 1893, we had 5000 doctors in this state. More than 1200 had never graduated. Many of them had never gone to a medical school at all. When a law was passed requiring registration and graduation, there was an immediate reduction in the death rate, because we had stopped the practice of a lot of men who knew nothing about medicine from being contributing factors to unnecessary death, and that progress has continued from that day to this.

What can we do about it? What is the possibility? Those of you who are familiar with the trend of modern medical education know perfectly well that it has been made artificially expensive. We know that there has been introduced into the undergraduate medical education, unjustifiably, the enormous sums of money that have been found necessary to carry on medical research. We know that most of our undergraduate medical schools are spending far too large a proportion of their entire income in research work rather than on the education of the undergraduate student, and that the undergraduate student is expected to pay the bill.

That is not fair, and we know it is not fair, and we must correct it. It is not right that a man should pay an average cost of $14,000 for a medical education when $7,000 or $8,000 of that sum is actually expended for the purpose of carrying on research which ought to be paid for and supported by the same charitable institutions that are now invading private practice attempting to socialize medicine and are destroying the respect and the independence of the medical practitioner.

That is where the money of the rich should go. That is where they can do their good. Provide the means wherewith to give to the profession the facts, the knowledge it needs, to prevent and treat and cure disease and let the profession do it unhampered.

Now, every activity of the State Board of Health in Kentucky, everything that is done by every county board of health in this state is done with and by and through the approval and direction and instruction of this body for the state, and of the county medical societies for the counties. Wherever we have a full time health department, the health officer is selected by three members of the local medical society that represent that medical society, and whenever he fails to do what they want done, they are the people who determine his continuity in office. It does not make any difference how capable he is in other respects, if he has not the capacity to make himself stand right with his doctors, he is disqualified under our system of practice which is recognized by our general assembly. There is not a clinic or any other activity of this board held in any county unless an invitation is presented—and it must be in writing—on the instruction of the county medical society of the county in which it is done.

It is important, however, in that respect for us to think of two or three things. Consider smallpox vaccination, for example. Twenty-five years ago, less than five per cent of the people of this state were vaccinated against smallpox, although smallpox has been known for 100 years. There were not two counties in the state in which there was ninety per cent vaccination of school children. The income of the physicians of Kentucky twenty-five years ago from smallpox vaccination was not as much as $2,000 a year, and I would venture the assertion today that because of the activity you have shown in popularizing this operation, in simplifying its technic, and in developing its effectiveness, the present income of the medical profession in Kentucky from smallpox vaccination is $200,000 or $250,000.

Dr. Hendren compares the income of the average country doctor with the average city doctor.

You will recall that in 1898 this Association made an examination of the income of the doctors of the state, and at that time the average cash income, rural and urban, was $900. It is a lot more than $900 now. A tremendous study is being made of this whole situation by the American Medical Association at the present time, in which many of you are participating. A recent study has developed that the average income of the medical profession is a little more than $3,600 a year.

This is the interesting thing to me: While we have a fourth of the practicing physicians in Louisville, the average income is above $1,000 less a year than the average income of the physicians in the state. That takes into consideration the fact that the physicians of Louisville have among them some who are making large incomes.

That reference to society interests which Dr. Hendren so pleasantly referred to also exists here, and many of us live with our fathers-in-law, or on the income of our ancestors who were provident.

It is only the men who have gone through the long period of hard work that have attained eminance and are attaining the proportionate income in the profession, here, just as in the country.

Here is another problem we are up against—the alluring salaries paid our young graduates in positions which rarely offer opportunity for professional growth and advancement. Take the young men who are graduating at the University of Louisville. I see them and come in contact with them. They come over and talk to me about what they are going to do. Almost invariably they walk into a salaried industrial position, or in some department store, and are paid a larger income than any of us dreamed of making before we had been practicing at least ten years, when I started in the practice of medicine. That is one of the great problems of the future. The demand for the industrial physician is tremendous.

Today, the young man, taken from the county seat high school to the college, going through its magnificent portals and coming in contact with the sort of culture that is in it, then going four years through the medical school, and from one, three or four years through the hospital before he begins practice, has been disqualified for the sort of hard work you and I, and most of us, have done in general practice in the country.

The question of shortening the time of medical education, not lowering the standard, but of shortening the time of medical education is a live question. It has been answered in Harvard, Leland Stanford, the University of Ohio, and the University of Minnesota by the adoption of the quarter system. We all know perfectly well that the four months' vacation in the middle of the year was not done for the benefit of the students attending high school or college, or the professional college. It was done for the benefit of the professors; for the benefit of the faculty.

The adoption of the quarter system, which enables a boy to save three and one-half valuable years in the beginning of his life, a time which has heretofore been wasted, is a very important matter that merits and is receiving the consideration of educators in all professions.

In all of this, after listening to the diagnosis made by Dr. Hendren and by the Orator in Medicine last night, after we have become thoughtful about this subject, the thing we want to do is, not merely to make the diagnosis but to have the courage to do what country doctors have been doing ever since there has been a medical profession; have the courage to devise and plan a means by which they can accomplish a remedy.

To my mind, the purposes will be accomplished in considerable measure by the building of good roads. We have not begun to do it yet. These roads that we think of as good, and that are so great in the state, are not helping our country people because most of them do not live on that kind of road. We who practice medicine know perfectly well they do not. A great part of the year we have to get to these patients on horseback.

Let us continue to build good roads. Let us continue to have better schools in the country, and we must have either county or community hospitals where groups of men can practice together. We must have local hospitals in the more thickly populated settlements, such as mines and industrial centers. We have to develop a place where the technical things that are necessary can be provided for the doctor. That cannot be done in a county like Leslie, for example, or a county like Robertson, by the people of the county, in any sort of adequate proportion. It has to be done through a system of state aid such as has been developed in Pennsylvania and in Massachusetts, New York, and many of the other states where the setting for the doctor, the armamentarium with which he will work, must be furnished to him in considerable measure by outside people who are more fortunate, so that the local people may have an equal opportunity, although in a poor section, with those more fortunate in environment.

We have to develp that sort of thing. We have to develop in several parts of the state hospitals where interns can be trained and located, because we find that a very fine group of our own people are graduating from the University of Louisville. They get their internships more in Pennsylvania than they do in any other state. Pennsylvania has more rural hospitals that are effective in this respect, than any other state east of the Mississippi River. That is, Pennsylvania has hospitals located in the sections where they need them most and where they have high hospital standards. Our students like to go to those places. They are paid salaries that support them for the time they stay there. They go there for training and when they get through they locate there. Pennsylvania is the one state in which the problem of the rural physician is not a pressing problem.

Let us work together, be thoughtful together, not only about the condition that confronts us, but about its remedies, especially about the remedies. Every single, solitary one of us knows that if the prophesies of dire disaster to the general practitioners of this country are permitted to come to pass, they are going to come to pass because we are asleep at the switch. We know the facts, we know the danger, and we know if the general practitioners are destroyed in Kentucky, civilization is destroyed in Kentucky. I hope the specialists will be better and better every single day they live and that there will be more of them, but it does not make the slightest particle of difference how good they become, ninety per cent of the ills of the human body are going to be treated by the general practitioners and unless he is a competent, capable man, the specialists are not going to get the other ten per cent much before the undertaker gets them, because it is going to take some traffic cop to guide the patients in to the specialist's office. The best guide to the specialist's office is the competent general practitioner.

If the general practitioner is destroyed, so far as the specialist is concerned, the goose that laid the golden egg is destroyed. There is no doubt about that. We have to realize that the foundation of our profession is built on general practice. Unless we can preserve it, the problem will not be solved. But, as Dr. Hendren so bravely said in his concluding paragraph, "We will solve this problem."

As far as Kentucky is concerned, a united profession is recognized and authorized by the people of the state, clothed with the authority of the state to act and a citizenship ready and willing to wait and listen to what we say but not willing to wait too long. Our people will do what we tell them to do if we definitely tell them to do something. If we sit still they will pass another chiropractor law, or another cult will be born, fathered by the discards of the profession, and eventually qualified to practice.

If we can give a solution that will retain general practitioners for our people both in the country and in the city—and they are just as badly needed here as in the country—then, and not until then, will we have lived up to the responsibility and paid the debt we owe to the people who have supported us. (Applause).

C. L. Sherman, Millwood: I don't wish to take issue with the doctor, but I just want to say that there are two sides to this question. Dr. Hendren has presented his side so well that he has gotten a majority of the city people to believing it.

We country doctors are not so bad off as you might think if you consider it from another angle. We are not a source of pity and charity yet. In fact, we are paid just about as well as the city doctor on an average.

Suppose we compare our obstetrics cases. Country doctors get from $10 to $25 for each case. You city doctors get from $25 to $50, I suppose. We country doctors make one visit while the city doctor makes nine, the city doctor is the one that is underpaid. We make one visit and usually get there about the time the baby is born, or just before, and collect our fee. We make no other visits, and if we do, we charge for them. About one time out of ten we are called back, and we make a charge for that visit at the regular price. When we make a call in the country some 6 or 7 miles distant, we get five dollars for it. You city doctors are held up by the traffic officers at all the busy crossings and you get $2.50 or $3 for the call, and we get $5.00. We get in the automobile and drive down the road, there are no cops to hold us up, no red lights, I consider that we have an advantage over you. If we cross over four or five miles farther we count the distance from home, and get $10, and so on. Of course, right at home we only get $1.50 per visit in our little town.

In the winter months we are at a great disadvantage, but during the good weather we are educating the people to come to the office. I will say there are nine patients who come to my office where I visit one in good weather, but of course I have to pay that back when the roads get muddy.

Another thing is the collections. In my part of the country, and I live in as poor a part of the state I guess as there is anywhere, collections run around ninety per cent, while if the city doctor collects fifty per cent, he thinks he is doing well. These are facts. He has to look after his collections and send statements out at the end of every month, while I only send statements when called on to do so. There is not one time out of twenty that I send out a statement unless some man calls on me to do so. Of course, our charges are reasonable, but often I work in my office from seven o'clock in the morning until five o'clock in the afternoon, continual office work, and then make one or two calls at night.

That is the situation as I see it, and there are possibly only two things that will make up for this. One is to stop preaching this hardship of the country doctor. Encourage the young men to come to the country. But there is not a student in this house who heard Dr. Hendren's address this morning, not one of them, who would be likely to be induced to go to the country. If we preach the other side of it and preach good roads, we are going to accomplish something. It is a fact that a lot of people, in my part of the country, are suffering during the winter season especially if we have an epidemic of pneumonia or influenza. It is a fact that a lot of people go without doctors and are really neglected, but during six months of the year they come to us, and I find that my work is growing easier every year as far as that part is concerned, with the exception of the muddy roads in the winter. (Applause).

Morris Fishbein, Chicago: It is interesting to hear that the country doctor is passing. He is not passing; he has merely become a city doctor in the country. As the practice of medicine has changed, medicine has come to depend more and more on accessory professions. For every one person who worked in a hospital attending on a patient fifteen to twenty years ago, there are now four people working in the hospital in order to take care of the patients; laboratory workers, orderlies, dietitians, experts in basal metabolism, experts in laundries, experts in every possible accessory to the medical and surgical trade. All of these things are making a great difference in the nature of medical practice.

The old-time physician used to take an excellent history, because he was an expert in the natural history of disease. He made a diagnosis largely on his knowledge of the natural course of the disease. This, of course, he coupled with an examination of the temperature, the pulse, some percussion and auscultation and, largely on the basis of this information he made his diagnosis.

The modern physician makes his diagnosis on the basis of many studies of the excretions, the basal metabolism, chemical tests, skin reactions, studies of the eye-grounds, and a half dozen other special examinations which make it possible for him to make a more scientific diagnosis.

The philanthropists, sociologists and economists urge better organization and mechanization of medical practice. As men become divided more and more into two classes, individuals and robots, there is going to be a difference in the way that the people are taken care of. The individual will continue to get individual attention. It is the desire of the organizers to see that the robots get organized or mechanized or, let us say, commercialized medical attention.

Let us see how this would work if Mr. Ford and John D. Rockefeller controlled the operations.

The patient enters the clinic and he immediately become a number; he is no longer a patient. He is number 1,830,542. As he enters the door on his own power he is greeted by C. S. 35, the cocain smearer, who smears the throat with cocain in order that his reactions may not be too prompt. Then he proceeds to P. P. 38, the procain pusher who pushes the procain where it is necessary it should go. He then goes to R. T. S. 35, the right tonsil snatcher, who works on the right tonsil and gets it out; then on to the L. T. S., the left tonsil snatcher, who sees to it that the left tonsil comes out. Then his throat not being in the proper condition, he goes to H. I. 45, the hemorrhage inspector; then to M. R. 32, the mucus remover, each of whom does his special job in cleaning the throat. The patient is then deposited in a large ward and is visited at regular intervals by the bed pan bringer, the hemorrhage inspector, and the others who find it necessary to keep him in the proper condition. (Laughter and applause). Finally, having returned to consciousness, he proceeds on his own power out the door where his clothing, having been properly sterilized and also inspected and investigated as to the amount of money he is able to pay, is returned to him. He deposits at the window and departs a thoroughly tonsillectomized robot. (Laughter).

That may sound somewhat imaginative or fantastic, something in the nature of Moore's utopia. Actually however large clinics in some of our great cities, such as the Public Health Institute in Chicago, to which patients with venereal disorders come in tremendous numbers, duplicate such systems.Medicine is actually confronting a situation of transition in which the physicians are to determine whether the vast majority of the people of America are to continue to be treated as patients and as human beings, or whether they are to be treated as parts of a machine.

They tell us that the rich and the poor get the best of medical care, but that the great middle class is suffering. This is a fallacious statement, again, because the rich and the poor do not get the same type of medical care. There is a great deal of difference between the kind of care that a rich man gets and pays for and the kind of care that a poor man gets even in the best of medical institutions. There is a great deal of difference in having three nurses working eight hour shifts, and a dietitian, as well as a secretary to take care of all one's financial troubles while one lies sick, and the proper housekeeper to see that everything is going right at home from lying in a poor ward with great worries on one's mind as to what is happening to the family in one's absence, with one nurse taking care of twenty-four patients, and with orderlies who look on one as something less than the scum of the earth.

As long as we live in the kind of civilization that we live in, as long as we have rich people and poor people and middle class people, we are going to have three kinds of medical care. The medical care that is given to the rich, for which the rich pay; the medical care given to the middle class for which they can afford to pay; and the medical care given to the poor as charity and for which the rich help to pay.

A better quality of care can be furnished to the middle class if more endowments are given to the hospitals and the medical institutions to take care of the additional cost of the best type of scientific medical care. The best type of scientific medical care is an extremely expensive procedure. It is expensive in the country or in the city, and it is only when the economists have turned their attention to such a distribution of wealth, such a distribution of the overhead, and such a distribution of all of the economics of illness as will permit a better distribution of costs over a wider group of people, that we will begin to have better medical care than is now given to the vast majority of the middle class.

One of the most important situations that confronts the medical profession today is education of the public as to what constitutes scientific medical care. As long as our public is so ignorant that it knows nothing whatever about its own body and about disease, that it does not know the difference between the education that is given to a chiropractor, osteopath and naturopath and that given to a physician; as long as our public is so ignorant that it conceives it possible to treat diphtheria by Christian Science as well as by diptheria antitoxin, there is going to be much difficulty in giving the best type of medical care to all of the people. (Applause).

J. H. Hendren, (in closing): Mr. President, I hardly think it worth while for me to take up the time of this meeting discussing. I wish to thank the Association in general for the very kind way in which the paper was received, and if I have said anything I ought to be sorry for, I am glad of it. (Laughter).

There is a tendency for the country doctor to get away from the hardships of country practice, of muddy and bad roads, and horseback riding. It is true that the good roads have reached out into the country, and lots of the country doctors of the present day are nothing but city doctors who live out in the country, but the real, old fashioned fellow like myself, who carries two forceps in his saddle pocket and wears gum boots all winter, is really dying out.

I thank you. (Applause).

DIABETIC RETINITIS: CASE REPORT*

By Samuel G. Dabney, M. D., Louisville.

As to the existence of a genuine diabetic retinitis, there is some difference of opinion, but the weight of evidence favors it. Moreover, so far as I know, all ophthalmic writers describe it as a distinct entity.

It does not occur in persons under thirty-five years old. It presents a picture not quite so typical as some cases of albuminuric retinitis, but often very suggestive. The prognosis as to life is far more favorable than in the nephritic form—as to vision, the prognosis must be somewhat guarded; some patients retain good sight for years and improve with the control of the diabetic condition, but others especially those with hemorrhages into the vitreous finally lose their sight, even when the general health is good. Thus they may live blind but otherwise well for a number of years. The case reported belongs to that class. It cannot be claimed that the patient postponed treatment too long, for when I first saw him the vision of one eye was 20-20 and of the other nearly 20-30; nor is it likely that his treatment was imperfect, as the patient was a gentleman of unusual intelligence who followed carefully the directions given him by eminent internists. Moreover, in regard to his eyes, he had the benefit of a consultation with one of the most distinguished oculists in this country (Dr. DeSchweinitz, of Philadelphia), who gave an unfavorable prognosis, as I had already done. The patient is still living, in excellent condition, except that he is practically blind.

The case is as follows: Mr. X., aged 51, banker, consulted me November 15th, 1923, stating that for several months his glasses had been unsatisfactory. Examination showed the need of change in his glasses, with the proper lens the right eye seeing 20-20 and the left nearly 20-30, but on ophthalmoscopic examination, a number of small punctate hemorrhages were found in the right eye, and in the left, in addition to minute hemorrhages, there were a number of small sharply defined white spots in the macular region. The appearance was so suggestive of diabetes that I asked him concerning it and was told that he was under the care of one of our most prominent internists because of sugar and occasional albumin in the urine. I, of course, communicated to this gentleman the nature of the eye trouble and its probable diabetic character. In addition to the changes in the retina there was slight opacity in the lower part of the right lens, but it is impossible to say whether this was diabetic, as such conditions are common in health in persons past fifty. Except for glasses, no local treatment was given. With a gradual increase of the retinal spots and hemorrhages, there was further depreciation of sight so that in July, 1924, the better eye had not quite 20-30, and the worse hardly 20-40.

In April, 1925, he observed decided loss of sight and examination showed hemorrhages in the left vitreous and marked increase of retinitis in the right. About this time he changed his internist, placing himself under the care of Dr. R. Hayes Davis, whose letter is included in this report. These vitreous effusions are far more common in diabetes than in nephritis. They tend to recur and are a grave omen. The sight now was reduced to 20-50 in the better and 20-200 in the worse eye. By December, 1925, the vision in the right eye was reduced to 20-200 and in the left 3-200. The depreciation in sight, being mainly due to recurring hemorrhages into the vitreous, and therefore, on several occasions getting suddenly worse.

The suggestions made by Dr. DeSchweinitz were followed but without apparent effect, as he had already predicted, stating that the prognosis was unfavorable. I had expressed this opinion at the time of the first vitreous hemorrhage. His last visit to me was on August 8th, 1928. My notes show that his vision was then nearly gone, being 6-200 in the right eye and 1-200 in the left. He said his general health was fine, that he had had no insulin for six months, but had been taking iodide of potassium and calcium lactate from time to time. He saw Dr. Davis occasionally.

Dr. DeSchweinitz' letter, dated March 18, 1926, to Dr. R. Hayes Davis.

Dear Dr. Davis:

I am much obliged to you for your courtesy in permitting me to examine your patient, Mr. X. whom I have investigated yesterday and today, and I thank you, too, for the excellent letters and telegrams, which you sent me, which were very helpful.

"Mr. X. has quite typically one of the forms of diabetic retinitis associated with retinal angiosclerosis; in point of fact, the two conditions are practically always combined. The hemorrhages in the right eye are both retinal and preretinal in situation, and the sudden loss of vision of the right eye which occurred within the last week, is due to a rupture into the vitrefundus. Only the upper part of the retina can be seen clearly on account of the vitreous hemorrhages, which are very thick in the lower portion of the eye. Vision is reduced to the ability to see a large letter held quite close (1—.60). There is a certain amount of opacity in the crystallin lens, the so-called diabetic immature cataract, but that of itself is a small matter in the obscuration of vision.

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*Read before the Jefferson County Medical Society, February 17, 1930.

"The vitreous infiltration of the left eye, which is of long standing, is so dense that one cannot see the eye-ground; also the lenticular opacities are more pronounced in this eye. The visual field, much contracted, shows in its center a large scotoma, interpreting evidently a gross lesion of the macula, which is so commonly involved in diabetic retinitis, although the actual exudates cannot be seen on account of the density of the vitreous opacities.

"Naturally, the treatment of this condition is largely that which is suited to the diabetic state, and which you have so excellently in hand. If the diabetes is of the character that is suited to the treatment by insulin, I think it ought to be administered, as there is some evidence to show that insulin treatment in suitable cases has been advantageous in helping to clear up, if I may so express myself, diabetic retinitis, but on account of the extensive hemorrhages the iodid treatment, which I understand is now being used, should continue. Personally, in the absence of a specific history, I believe that iodid of sodium does better in these cases than iodid of potassium.

"Locally, I would be inclined to use dionin in ascending strengths, or else intermittently. I gave him, until he could reach you, which will be next Saturday, some capsules of lactate of calcium. I think there is little doubt that if it is used intermittently it has some beneficial influence on the hemorrhagic intraocular processes. I have generally given from 20 to 30 grains a day for three or four days, and then stop the remedy for several days before reinstating it. I follow in this respect a plan suggested, I think, by Hobart Hare.

"Mr. X. finds hot compresses agreeable, and I have no doubt they have some small influence in helping to absorb the vitreous hemorrhages, and I told him to continue them.

"I understand that he will be under Dr. Dabney's care for his eyes, and of course he could not go to one who will give him better service. I enclose for your convenience a copy of this letter in case you think it advisable, which I hope you will, to send it to Dr. Dabney.

"I sincerely hope that these vitreous hemorrhages will not be followed by proliferating retinitis, which only too frequently is the ultimate out come of this condition, and that is the reason that I believe the remedies which are being used, and which I venture to suggest, should be pushed. I need hardly say that while there is a chance that the vitreous may clear, it is not a very good one, and the prognosis is unfavorable. However, there was a slight clearing this morning, so that the vision of 1-60 had improved to about 1-30, and one was able to see more clearly into the eye-ground itself than yesterday. Mr. X. had himself noticed this slight improvement in vision.

"If agreeable to you, I shall be very glad to correspond further with you with reference to this case, and I sincerely hope that Mr. X. who is a most agreeable patient, will improve.

"With best regards to you and Dr. Dabney, believe me"

R. Hayes Davies' letter, dated January 24th, 1930.

"Dear Dr. Dabney:

"As per your request I am herewith sending you the most important facts that are associated with the case of Mr. X. He first consulted me on May 1st, 1925.

"He was then 53 years old and gave a history of having discovered sugar in his urine twenty years previously while having life insurance examination. Since that time he had had sugar whenever he ceased to use proper care with his diet. He was complaining of failing eye sight, but otherwise felt very well.

"He is 6 ft. in height and weighed 197 lbs. The general physical examination was negative, and the blood pressure was systolic 128, diastolic 80.

"His urine showed a trace of sugar and a trace of albumin. There were no casts on the first examination.

"The Wassermann reaction was negative.

"The blood sugar was 0.214%, non-protein nitrogen 39 mg. per 100cc; urea nitrogen 21 mg per 100cc; uric acid 2.4 mg. per 100cc.

"Mr. X. consulted me from that time until a few months ago, when he moved to Texas.

"At first, merely adjusting his diet brought about a complete disappearance of sugar from the urine with a lowering of the blood sugar, but not to normal. He objected to the use of insulin at first, but owing to the condition of his eyes, he later consented to it and with the use of insulin his blood sugar was kept at practically normal level without difficulty.

"As time progressed, albumin increased in his urine to 2 plus and the specimen at various intervals showed hyaline and granular casts.

"The blood pressure has always remained

about normal.

"I received a letter from Mr. X. the other day in which he stated that his general health was perfect, but of course his eye condition has gradually grown worse until he has very little sight at the present time.

"My records, are, of course, very long, having extended over a period of nearly five years and I have endeavored to give you only the most important facts. However, if there is any additional information that would be of use to you, I am quite certain that I can give it to you.

"With kindest regards, I am"

DISCUSSION

Leo Bloch: I wish Dr. Dabney would tell us in closing whether his patient had arteriosclerosis. Many people who are diabetics also have arteriosclerosis. Some diabetics become blind on account of dehyration, that is great loss of fluid by urination, fluid is extracted from the eye ball causing it to soften, thereby, interfering with sight function: As the body is freed from sugar, fluid restored to eye ball and vision is restored. This is the so called "soft eye" of the diabetic.

Gaylord C. Hall: I have enjoyed Dr. Dabney's report very much. I think I saw the patient he mentions. Certainly this case showed a malignant type of retinitis with persistently recurring hemorrhages, about the most unfortunate thing we have to deal with.

Not long ago in a discussion before the Louisville Eye and Ear Society, Dr. Beddell made a very positive statement in regard to diabetic retinitis. He said that there was no retinitis of diabetes, that it was always the result of vascular changes. Notwithstanding this statement and the opinions of other prominent opthalmologists I am inclined to agree with Dr. Dabney that certainly in these diabetic cases we see retinitis that is, if not true diabetic retinitis, so far removed from the type of renal retinitis as to be practically a distinct entity. Those who say there is no retinitis without vascular change refer to the fact that diabetic retinitis does not occur in the young, when diabetes is most apt to be severe, and that it occurs chiefly in those cases with albumin uria and with some vascular change and increased blood pressure. On the other hand, we have in the type of retinitis that I have in mind, a perfectly normal optic nerve, the nerve is not swollen as we see in the renal type, we do not see deposits and edema of the retina that we see in the renal type of retinitis, we do not see the large amount of exudate as a result of inflammation of the retina that occurs in the severe type of renal retinitis. Again as Dr. Dabney mentioned, the prognosis as to life is very much better than it is in the renal type of retinitis. I recall one patient who has been under observation over a period of seven or eight years with very little change and little diminution of vision.

It seems to me there is a definite type of retinitis that we see in diabetic conditions. The fact that the hemorrhages occur in different situations and are different in types than we see in renal retinitis is also a distinguishing feature.

Cury H. Krieger: I would like to ask Dr. Dabney whether, in the case he has reported, the retinitis seems to have been arrested, or whether it is still progressing, after beginning the administration of insulin? A few years ago DeSchweinitz contended that in some cases diabetic retinitis could probably be arrested by appropriate general treatment and insulin.

William A. Jenkins: I am not an ophthalmologist, and the cases of diabetic retinitis that I may or may not have seen in my work would be inconsequential as compared to the number of cases seen by Dr. Dabney and other specialists in his line. The question raised by Dr. Bloch appeals to me. May not this condition be simply a localized arteriosclerosis and not necessarily part and parcel of the disease diabetes mellitus? Diabetes mellitus is most typical and most severe in children and in young adults. Diabetes retinitis is not common enough among this class to be placed as a leading symptom of the disease.

On the other hand, diabetic mellitus in individuals past middle age is perhaps more common, but is usually less severe and is part and parcel of a general metabolic and tissue breakdown. At this stage of the individual's life arteriosclerotic changes are prone to be found in several fairly common areas of the human body. Take, for instance, diabetic gangrene of the lower extremities. Here we have an arteriosclerotic process practically indistinquishable from senile gangrene of the lower extremities, etc. My point then is that diabetic retinitis is not essentially and typically a symptom of this disease as a clinical syndrome, but is perhaps more coincidental. Of course, the profound disturbance induced by diabetes mellitus would be more likely to extend and abet any tendency that was present in the given individual for arteriosclerotic changes, and it might be possible for the sake of argument that this change in the retina is fairly common in diabetic cases.

Still I have the feeling that it is an arteriosclerotic process rather than essentially and typically a diabetic symptom, and I should like Dr. Dabney in closing to state whether he believes that it would be possible to distinguish this condition as a diabetic symptom from the examination of the eye grounds alone without knowing that the patient had the disease diabetes. I am not referring to this one case which Dr. Dabney reports here tonight, but I am referring to a judgment formed from the observation of a number of cases.

Samuel G. Dabney, (in closing): I am very glad to have heard the discussion by Dr. Jenkins and Dr. Bloch as well as by my ocular colleagues. Diabetes may be very severe in children, but diabetic retinitis does not occur in young subjects. The youngest recorded case was in an individual aged 35 years. That diabetic retinitis infrequently develops in persons of that age is quite generally known. On the other hand, it does sometimes occur. Foster Moore, who has written a valuable recent text book on medical ophthalmology, says that occasionally the disease unquestionably develops without arteriosclerosis, that it can hardly be attributed to arteriosclerotic changes. He believes, however, there is a type of retinitis due to arteriosclerosis, but it presents a very different picture from that we see in the retinitis of diabetes.

Dr. Hall has described the typical manifestations of diabetic retinitis, and it happens that the man whose case I reported presented exactly that appearance. Small punctate hemorrhages, absence of retinal edema, absence of edema of the optic nerve, a number of white spots, distinctly outlined and sharply defined, arranged in groups between the macula and optic nerve. The hemorrhages were small and punctate.

As soon as I examined the interior of this man's eyes I said the condition looked like diabetes. He had not told me he had diabetes nor had I asked him. He then gave me the history that he had been under the care of a physician for several years. The condition when I saw him was one of typical diabetic retinitis. Later when hemorrhage in vitreous occurred, I gave an unfavorable prognosis.

Referring to Dr. Krieger's question: The retinitis has not been arrested by medication. Dr. DeSchweinitz in his letter, which I did not read, suggested continuance of insulin therapy, and this plan has been followed with no beneficial effect whatever. The patient has had one vitreous hemorrhage after another, and despite all treatment, has lost the sight of both eyes, although he still remains in good health.

Chronic Pentosuria and Migraine—Changes in diet did not appreciably affect the pentosuria in the case reported by Jacob I. Margolis, New York (Journal A. M. A., July 20, 1929). Ingestion of amidopyrine markedly increased the out-put of pentose in the urine in direct proportion to the amount ingested. As no such occurrence was demonstrated in more than 100 normal and sick persons (including some with glycosurias), this effect of amidopyrine may possibly be utilized as a provocative test for chronic pentosuria. Intravenous injections of a typhoid bacillus vaccine caused a marked drop in the pentose and the nitrogen output in the urine on the same day, provided a severe general reaction took place. During this entire series of injections, there was little or no change in the average output of pentose.

WOMAN'S AUXILIARY NOTES

CAMPBELL-KENTON AUXILIARY ORGANIZED

The Woman's Auxiliary to the Campbell-Kenton County Medical Society was organized January 31 with the assistance of the State President, Mrs. P. E. Blackerby and one member of the Advisory Council, Dr. A. T. McCormack. The meeting was held at the new Clinic Building in Covington, Kentucky.

The following officers were elected: President, Mrs. B. K. Menefee; first vice-president, Mrs. C. N. Heisel; second vice-president, Mrs. A. A. Briggs; third vice-president, Mrs. C. A. Menefee; fourth vice-president, Mrs. C. N. Shaw;secretary, Mrs. S. G. Biltz; assistant secretary, Miss Pauline Haley; treasurer, Mrs. N. A. Jett; parliamentarian, Mrs. J. A. Ryan.

Charter members are:

Mrs. Luther Bach, 305 Ward Ave., Bellevue.
Mrs. R. L. Biltz, 31 Highland Ave., Fort Thomas.
Mrs. S. G. Biltz, 31 Highland Ave., Fort Thomas.
Mrs. J. A. Caldwell, 131 Electric Ave., Newport
Mrs. S. O. Griggs, 209 Sixth Ave., Dayton.
Miss Pauline Haley, 5 Barrington Rd., Fort Mitchell.
Mrs. C. N. Heisel, 1910 Scott St., Covington.
Mrs. N. A. Jett, 108 E. Southern St., Covington.
Mrs. M. S. Jolson, 535 Scott St., Covington.
Mrs. B. K. Menefee, 2120 Glenway, Covington.
Mrs. C. A. Menefee, 302 Earle St., Latonia.
Mrs. W. R. Miner, 535 Scott St., Covington.
Mrs. C. A. Morris, 516 W. 34th St., Latonia.
Mrs. E. W. Northcutt, 104 E. 25th St., Covington.
Mrs. J. O'Maley, Summit Lane, Fort Mitchell.
Mrs. J. A. Ryan, 56 Beechwood, Fort Mitchell.
Mrs. C. N. Shaw, Alexander.
Mrs. H. C. White, 3826 Decoursey, Latonia.
Mrs. G. H. Zwick, 508 Sixth Ave., Dayton.

MRS. STUART G. BILTZ, Secretary.

RADIO PROGRAMS

Radio programs, sponsored by the Woman's Auxiliary to the Kentucky State Medical Association, are given over WLAP, "Louisville's Own Station," Thursday morning from 10:50 to 11 o'clock. The Committee on Public Instruction has charge of this work. Eight minute talks to the homemaker are made by members of the Jefferson County Medical Society. The introductions and closing statements are made by members of the Jefferson County Auxiliary. Much favorable comment has resulted from the first four talks, all given before this goes to press.

The program prepared to date follows:

Feb. 13—"Imperative Needs for Public Health Information" by Dr. Granville S. Hanes, introduced by Mrs. P. E. Blackerby.

Feb. 20—"Scarlet Fever Treatment Today" by Dr. A. T. McCormack, introduced by Mrs. J. W. Sams.

Feb. 27—"Communicable Diseases in Louisville Today" by Dr. C. H. Harris, introduced by Mrs. John K. Freeman.

March 6—"Some Results of the So-Called Children's Diseases" by Dr. Emmett F. Horine, introduced by Mrs. D. A. Bates.

March 13—"Measles" by Dr. Philip F. Barbour, introduced by Mrs. Geo. A. Hendon.

March 20—"Whooping Cough" by Dr. James Bruce, introduced by Mrs. C. G. Arnold.

March 27—"Meningitis" by Dr. T. Cook Smith, introduced by Mrs. S. W. Bates.

April 3—"Milk Borne Diseases" by Dr. Vernon Robins, introduced by Mrs. W. F. Boggess.

April 10—"An Adequate Alkali Reserve" (A Factor in Mental Health) by Dr. W. E. Gardner, introduced by Mrs. R. L. McCormack.

Auxiliary members throughout the State have been listening in to the radio programs given over WHAS by the State Board of Health on Thursday afternoons at 4:30 o'clock, since January 8, 1929. We hope they will tune in for these Thursday morning broadcasts, too.

THE STUDY COURSE

Are you studying the lessons in the Medical and Health Law Study Course? Has your County Auxiliary developed a class in this subject? Have you begun to study the splendid lessons sent out by our National Body, the Woman's Auxiliary to the American Medical Association?

Mrs. John K. Freeman is conducting a study class on these subjects at the Y. W. C. A. in Louisville. Her group meets every Monday morning at 10:30 o'clock.

Are you planning to attend the Annual Meeting of the American Medical Association at Detroit with your husband?

COUNCILORS APPOINTED

The President, Mrs. P. E. Blackerby, has appointed the Councilors for the Districts composed of the followng Counties:

First District—Mrs. V. A. Stilley, Benton; Ballard, Caldwell, Calloway, Carlisle, Crittenden, Fulton, Graves, Hickman, Livingston, Lyon, Marshall, McCracken, Trigg.

Third District—Mrs. H. N. Meredith, Scottsville; Allen, Barren, Butler, Christian, Cumberland, Logan, Metcalfe, Monroe, Simpson, Todd, Warren-Edmonson.

Fourth District—Mrs. R. T. Layman, Elizabethtown; Breckinridge, Bullitt, Grayson, Hardin, Hart, Larue, Meade, Nelson, Spencer.

Fifth District—Mrs. Geo. A. Hendon, 615 Brown Building, Louisville; Carroll, Franklin, Gallatin, Henry, Jefferson, Oldham, Owen, Shelby, Trimble.

Eleventh District—Mrs. W. M. Martin, Harlan; Bell, Clay, Harlan, Jackson, Knott, Knox, Laurel, Leslie, Letcher, Owsley, Perry, Whitley.

BOOK REVIEWS

BACTERIOLOGY FOR NURSES—By Cary W. Carey. F. A. Davis Company, Philadelphia, Pa., Publishers, $2.25, net.

This is the third revision of this book. The author states it is enlarged to meet changing conditions of nurses, who may not only use it as a text book, but for reference as well.

Many subjects are discussed in detail in order to meet requirements of the National League of Nursing Education and State Boards of Education.

A NEW TREATMENT OF CANCER AND CHRONIC DISEASES—By La Forest Potter, M. D. Member of the Massachusetts Medical Society, Boston Gynecological Society, Associate Professor of Nose, Throat and Ear Diseases, New York School for Clinical Medicine. Richard G. Badger, Publisher, The Gorham Press.

This volume is the product of twenty years study and practice of the healing art, not only by scientific methods, but in its philosophical aspect. So-called un-othodox systems of healing have been measured and whatever of value they contained, as determined by results, in active practice, has been utilized.

The search has been for life rather than disease and death—for causes rather than symptoms. Out of this experience certain new and irrefutable facts have been evolved and successfully applied in human limitation and disease. These facts concern a new conception of the relation of mechanics, electrochemics and psycho-metaphysics, to man's adjustment to his environment.

With all due recognition of the noble and effective work accomplished by medical science, there is a missing factor in its attempt to co-ordinate mental and physical energies of man.

The first requisite in healing is the restoration of the equilibrium of the human body Man's primordial relation to gravity power is fundamental. We can no more achieve health with a distorted body than we can build a Brooklyn Bridge with rotten supports.

I do not forget that great mental and spiritual development is often achieved through physical limitation, but it cannot compare with that health rhythm which is born of the perfect instrument.

The second requisite is the restoration of the electro-chemical food balance of the master cell life controllers—the ductless glands.

The third requisite is psychophysical control, which co-ordinates the physical, mental and spiritual energies and lifts the mind into higher levels of activity.

THE NEUROSES—By Israel S. Wechsler, M. D., Associate Professor of Clinical Neurology, Columbia University, New York City. Octavo of 330 pages. Philadelphia and London: W. B. Saunders Company, 1929. Cloth $4.00 net.

This book is unusually rich in diagnostic helps. Psychiatric facts are emphasized in a chapter on differential diagnosis. Attention is drawn sharply to the organic, neurologic and other medical conditions that might lead to diagnostic error. There is a concise chapter on taking a psychiatric and neurologic history and on making a mental examination. Full technic is given for making tests.

The management and treatment of the neuroses are given in a chapter of 27 pages in which the author's aim is to help the physician adapt the treatment to the individual problems and special personality of each patient.

Dr. Wechsler's confident approach to the subject is based on and supported by his active contact with and study of hundreds of patients. The book, as planned and written, meets particularly well the needs of practitioners and medical students.

CLINICAL MEDICINE FOR NURSES—By Paul H. Ringer, M. D. Formerly Chief of Medical Service of the Asheville Mission Hospital, Asheville, N. C. Member of Staff, Biltmore Hospital, Biltmore, N. C. Illustrated. Third Edition Revised. F. A. Davis Compnay, Philadelphia, Publishers. Price $3.00.

The characteristic features of this volume is its clearness of expression, conciseness of statement, and convenience of arrangements. The object of these lectures is to place in a concrete form a fairly detailed description of the points in the various diseases that nurses will be expected to observe and interpret. This book will be very valuable to the individual nurse as well as to the hospital library and especially to the physician who is called upon to lecture to nurses as most text books on medicine contain too many details unnecessary for nurses.

IDEAL MARRIAGE, ITS PHYSIOLOGY AND TECHINIQUE—By Th. Van De Velde, M. D., formerly Director of the Gynecological Clinic, Harrlem, Holland. Translated by Stella Brown, with introduction by J. Johnston Abraham, C. B. E., D. S. O., M. A. M. D. William Heineman, London, Medical Books and Nandor-Wilson, 253 N. Third St., Philadelphia, Publishers. Price $10.00. Sales limited to the medical profession.

This is the book on the physical problems of marriage. It has been written soberly, scientifically, completely, without a scintilla of eroticism, and yet with a sustained note of high idealism.

Of books of a kind on the subject there have been more than enough. Most of them have suffered from the same defect, namely, that they have been written by people with incomplete medical knowledge.

Dr. Van de Velde, who for many years was in charge of the Gynaecological Clinic of Haarlem, has all the scientific qualifications necessary to write on the subject with authority. In addition, he is happy in possessing the gift, rather rare in a scientist, of a clear literary style. He can write to interest as well as inform. That is why his book can be recommended so confidently to every physician who has the welfare of his patients at heart. In these days doctors must be able to advise on the subject. The consulting room is the modern confessional, and it is the duty of the members of the medical profession to give definite and accurate advice on any problem in sexology propounded with honest intent to them. How many of us can truthfully say that we are competent to do so? Not many, unfortunately, for the subject has never before, to my knowledge, been presented so simply and concisely. Such information has hitherto been hidden away in scattered articles in many languages. Here it has been collected together by the industry and moulded into homogeneity by the wisdom of this distinguished Dutch gynaecologist.

In this book, then, will be found all the data bearing upon the physiology and technique of sexual congress, clearly stated without pruriency or mock modesty—in other words, scientifically.

In writing it, Dr. Van de Velde has placed the medical profession in his debt. None of us, probably, will accept all that he says. But all of us will be wiser for having read him.

It is a book that should be in the library of every doctor who looks upon his patients not as "cases," but as human, very human beings entrusted to his care.

Kentucky Medical Journal

Published Monthly By
THE KENTUCKY MEDICAL JOURNAL
Incorporated

Entered as second class matter October 22 1906, at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price $5.00
Edited Under Supervision of the Council

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COUNTY SOCIETY REPORTS

Jefferson: The April program of the Jefferson County Medical Society will be as follows:

April 7th

Address—Puerperal Infection—Dr. Otto H. Schwarz, St. Louis, Mo. Meeting sponsored by Louisville Obstetrical Society. General discussion.

April 21st

Case Reports—Vesico Vaginal Fistula: Report of Case—Dr. Walter Hume.

Plastic of Hand—Presentation of Patient—Dr. Frank P. Strickler.

Essays—Joint Hospital Committee

No. 1. History and Reason for the Organization of the Joint Hospital Committee—Dr. J. Garland Sherrill.

No. 2. What Has Been Accomplished by the Joint Hospital Committee—Dr. S. C. Frankel.

No. 3. What is Hoped to be Accomplished by the Joint Hospital Committee in the Future—Dr. Wm. A. Jenkins. General discussion.

E. F HORINE, President.
J. C. BELL, Secretary.

Caldwell: The Caldwell County Medical Society met in the office of the Secretary on Thursday night, January 30, 1930, with the following physicians in attendance: Z. T. Cunningham, W. C. Hayden, J. M. Moore, W. P. Morse, I. Z. Barber, J. G. Wadlington, F. T. Linton, M. A. Gilmore, W. L. Cash.

Upon motion the following were elected as the officers for the ensuing year: Dr. W. C. Hayden, president; Dr. W. P. Morse, vice-president; Dr. W. L .Cash, secretary-treasurer; Dr. J. M. Moore, delegate to State Association; Dr. J. B. Wadlington, alternate; Dr. I. Z. Barber, censor. Dr. M. A. Gilmore was elected to membership in this society.

W. L. CASH, Secretary.

Johnson: The annual meeting of the Johnson County Medical Society met in the Paintsville Hospital. The local society has been inactive for a period of time and this meeting was arranged for purposes of re-organization and in order to stimulate new interest in the County Society.

Meetings will be held regularly each month and delegates will be sent to the State Meetings. The new officers elected at the meeting were:

Dr. J. H. Holbrook, president; Dr. C. F. Holtegel, vice-president; Dr. P. B. Hall, secretary and treasurer; Dr. E. E. Archer, delegate; Dr. D. H. Daniel, 1st alternate; Dr. Kenneth Munn, 2nd alternate.

An interesting professional meeting will be held in March, the date of which will be announced later by the president.

C. F. HOLTEGEL.

Whitley: The Whitley County Medical Society met on December 9, 1929 at Williamsburg and the following officers were elected for the year 1930: President, Dr. L. L. Terrell, Corbin; vice-president, B. J. Edwards, Corbin; secretary, C. A. Moss, Williamsburg. Board of Censors: Dr. Garfield Howard, Gatliff; Dr. E. B. Stone, Williamsburg; Dr. O. L. Richmond, Corbin. Delegate, C. A. Moss, Williamsburg; alternate, L. B. Croley, Williamsburg.

There being no further business, meeting was adjourned.

C. A. MOSS, Secretary.

Boyd: At the Boyd County Medical Society, which met at the Henry Clay Hotel on December 3rd, 1929, the following officers were elected for the year 1930:

Dr. J. C. Sparks, Ashland, president; Dr. A. J. Bryson, Ashland, vice-president; Dr. H. S. Swope, Ashland, treasurer; Dr. J. D. Swango, Ashland, secretary.

J. D. SWANGO, Secretary.

Scott: Scott County Medical Society met for their regular monthly meeting, Thursday, February 6th, at 2 p. m. at City Hall.

Following members and officers present: Dr. E. A. Anderson, president, presiding; Drs. H. H. Roberts, L. L. Cull C. T. Lancaster, P. H. Crutchfield, J. W. Baird, S. S. Amerson H. V. Johnson, E. C. Barlow A. Stewart, and R. W. Porter, also Dr. R. D. Coffman was present.

This was a most enjoyable meeting, Dr. L. L. Cull very scientifically reported a case of cerebral spinal meningitis. Discussion led by Drs. Johnson, Porter, Roberts and others.

Also a scientific paper by Dr. S. S. Amerson on "What the Public Should Know," this paper was well discussed and highly complimented. And a motion was made and senconded that this paper be published. Our next meeting we will have papers by Drs. Crutchfield and Barlow.

We are always glad to have visitors, also the public was invited.

Dues collected amounting to $15.00.

A. STEWART, Secretary.

Harrison: Harrison County Medical Society held the regular monthly meeting at the Hospital January 6, 1930. Members present: Drs. Wyles, Martin, Midden, Rees, McDowell, Brumback, N. W. Moore, Carr, Wood, Wells, W. B. Moore, Dr. Minor and Ed Northcult of Covington.

Dr. Martin presided. Minutes of last meeting approved as read. On motion made, seconed anud carried, dues were fixed at $700 per year.

Dr. Rees reported case of Congemtal Araresio of Esophagus The infant lived 15 days. Post mortem revealed complete absence of Esophagus.

Dr. Ed Northcutt read paper on Spinal Anesthesia. Paper was discussed by Drs. W. B. Moore, Minor, Wood, McDowell, Wells, Brullback, Rees and Martin, discussion closed by Dr. Northcutt.

Round table discussion on Scarlet Fever in which all the doctors took part.

W. B. MOORE, Secretary.

Franklin: The Franklin County Medical Society met in regular monthly session at the Capital Hotel, January 2, 1930.

Members present: Drs. Budd, Ginn, Roemele, Youmans, C. T. Coleman, Travis, Patterson, Stewart, Wilson and Minish.

Vistors: Drs. Blackerby and Kolb, of Louisville and Miss Elizabeth Hurman, local public health nurse.

Dr. John Stewart reported on the sale of the Red Cross Seal Campaign of which he was chairman, which amounted to $2,000.00. Dr. E. C. Roemele offered a motion which was duly seconded and carried, that Dr. Stewart with two other members of his selection, compose a committee from the Society, which would be known as a Tuberculosis Committee, to start a survey of the county to ascertain the number of cases of tuberculosis in the county and what should be done to control the disease. Dr. G. A. Budd made a motion that the Franklin County Medical Society indorse the tuberculosis program and that we support it both collectively and individually. Said motion was seconded and passed unanimously.

Dr. P. E. Blackerby, Assistant State Health Officer, addressed the Society, complimenting the good work done in the Red Cross Seal Campaign and paid a high compliment to Miss Hurman, on the good work she is doing in the county and talked on a county survey, telling how it could be done best, especially stressing the examination of all contacts and the importance of examining all children of five or six years of age.

Dr. Kolb discussed the survey and the importance of careful examinations. He reported finding cases of tuberculosis in a general examination of patients coming in for nervous treatment.

Miss Hurman discussed the local situation and told of the work that has been done in the county.

The society then adjourned to the Hotel Dining Room for lunch.

L. T. MINISH, Secretary.

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KENTUCKY MEDICAL JOURNAL

Being the Journal of the Kentucky State Medical Association
Published Monthly under Supervision of the Council
Editorial and Business Office, Corner State and Twelfth Streets. Subscription Price, $5.00 Single Copy, 50 cents
Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 8, 1917, authorized May 25, 1920.

VOL. XXVIII. BOWLING GREEN, KY., MAY, 1930 No. 5

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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. XXVIII. BOWLING GREEN, KY., MAY, 1930 No. 5

EDITORIAL

THE ANNUAL MEETING

The Annual Meeting of the Association will be held this year at the Western Teachers College at Bowling Green, September 16th and 18th, with the House of Delegates meeting on Monday, the 15th.

Those who were present at the Meeting two years ago at Richmond will require no special urge to arrange to attend the Bowling Green Meeting. The members of the Association and the members of the Auxiliary will all be housed in one of the beautiful dormitories on College Hill. We will have the pleasure of eating together at the College cafeteria and we will spend a week of friendly interchange of views as to progress in medical science.

Doctor John W. Scott of Lexington, has been selected by President-Elect McClure to make up the program and is at work on it now. Doctor Scott will be glad to hear from any of our members with suggestions as to subjects in which they are especially interested.

We confidently expect the Meeting of the Association at Bowling Green to break all records for attendance and interest.

A COUNTRY DOCTOR

The Sunday Courier-Journal, in its editorial columns of April 13th, has paid a remarkable tribute to the "country doctor" in delineating the life of the late Dr. W. C. Keen, of Burkesville, and we are re-publishing it as a tribute to this splendid physician who was Health Officer of his county and Secretary of his County Medical Society for many years, and in all his arduous labors never faltered in his duties. The entire profession who knew and loved him, mourn his loss.

"A COUNTRY DOCTOR

"In the record of the passing from the scene of his labors of a country physician who had practiced for fifty years, the Cumberland News recently published the basic material for a novel. Such a modern writer as Elizabeth Madox Roberts, or Ann Parrish, or Edna Ferber, might have woven the life of this noble old gentleman into a marvelous tale. For any man of 76 years, who has served the hill people of Southern Kentucky for half a century, sharing their joys and sorrows, comforting them, bringing them relief to the best of his knowledge, never hesitating to drive to a rural home at any time of day or night to answer a call of distress, must have an inborn nobility of nature, which stamps him as great.

"For fifty years a country doctor in the foothills of the Cumberlands! When a ruined countryside was just beginning to recover itself after the war which ravaged it; when the lumber boom was on and great rafts of logs were sent down the rivers to the mills of the cities below; when oil wells were drilled by machinery hauled for miles through the mud, up hill and down dale, by patient plodding oxen—during all this time, in prosperity and poverty, drought or flood, storm or sunshine, good crop years and bad, this faithful son of Hippocrates drove his horse along dirt roads and creek bottoms to care for those in need. When spring freshets washed away bridges or ruined roads and when these same streams ran dry and stock suffered for want of water, the doctor came and went. When snows covered the wagon ruts and ponds and creeks were still in the grip of frigid winter, still the doctor answered duty's call, his medicine case in hand and his bag of instruments under his arm.

"Doubtless many a log cabin could tell of his trips when a new life came to the little home in the valley or on the hillside, and of visits to the same spot years later when that same life returned to the unknown and infinite elsewhere, whence it had come. And now, though the old doctor has brought his last baby, compounded his last prescription, and set his last fracture, life must go on in much the same fashion in the valleys and on the hillsides of Cumberland County, and other everyday heroes will serve the people of the farms and clearings. Noblemen are found in every calling and not least of all among the simple hill people with their primitive codes of righteousness and their inborn sense of justice and truth, despite their handicaps. This their family doctor must have known best of all."

WOMEN PHYSICIANS OF THE SOUTHERN MEDICAL ASSOCIATION

The Southern Medical Association will meet in Louisville, November 12-14, inclusive, and more detailed plans for this convention will be published later.

We are very pleased to note that special attention will be given to the women physicians of the South and that a committee has been appointed to look out for their comfort, pleasure, and entertainment.

A banquet will be given for them at the Brown Hotel; a golf tournament will be provided for those who care to play, and there will be a luncheon at the Laboratories of the State Board of Health for these visitors.

The committee on entertainment is composed of the following:

Dr. Lillian South, Chairman; Dr. Frieda Berresheim, Dr. Marie Biehl, Dr. Florence Brandies, Dr. Nora Dean, Dr. Della Hertzsch, Dr. Mary E. Hopkins, Dr. Juanita McF. Jennings, Dr. Alice N. Pickett, Dr. Louise B. Trigg, Dr. Annie S. Veech.

THE SOUTHERN MEDICAL ASSOCIATION

Dr. W. Hamilton Long, Louisville, who has been appointed general chairman, announces that work by the Committees for the coming convention of the Southern Medical Association in Louisville, November 12-14 is as well under way as could be expected this early in the year. There has been one meeting of all committee chairmen, and an outline of the work was made. The Brown Hotel has been selected as headquarters, and the committee on meeting halls, is at work.

Further announcements will be made from time to time through the JOURNAL for the information of its readers. Plans will be fairly well shaped and all arrangements at least outlined before summer.

FIFTEENTH ANNUAL CLINICAL SESSION OF THE AMERICAN COLLEGE OF PHYSICIANS

The American College of Physicians will hold its Fifteenth Annual Clinical Session at Baltimore, Maryland, from March 23-27, inclusive, 1931. The Lord Baltimore Hotel will be headquarters.

Dr. Sydney R. Miller, Baltimore, as President, will have charge of the selection of the general scientific program. Dr. Maurice C. Pincoffs, of Baltimore, has been appointed by the Board of Regents as the General Chairman of the Session, and will make all local arrangements, including the making up of the program of clinics. Business details will be handled by the Executive Secretary, Mr. E. R. Loveland, from the College headquarters, 133-135 S. 36th Street, Philadelphia, Pa.

It seems unusual to announce a medical meeting a year in advance, but physicians now have so many society affiliations that this society felt the necessity of proclaiming the date of this meeting early so that nonconflicting dates can be avoided for the 1931 program of medical society events.

A PRIZE

Beginning this year the American Association for the Study of Goiter will award a cash prize of $300 annually for the best original thesis dealing with some phase of the goiter problem. Theses should be submitted by June 1, to Doctor Walter M. Simpson, Chairman of the Essay Committee, Miami Valley Hospital, Dayton, Ohio. The award will be given immediately following the coming meeting of the Association which is to be held in Seattle, Washington, July 10-12, 1930.

NATIONAL HOSPITAL DAY

National Hospital Day is now annually celebrated by thousands of hospitals in Canada and the United States, as well as other lands, because it provides the means of directing public attention to the great work which these institutions do in the humanitarian cause. The movement originated eight years ago and was an expression of the widely growing feeling that communities were not only entitled to information about hospital endeavor, but should in their turn afford more definite support to these projects which contribute to the health and happiness of citizens in general. The hospital today functions as a most important and essential utility and is closely related to the program of public health activities.

The observance of National Hospital Day also commemorates the birthday of Florence Nightingale who must not only be recalled, in the figure of romance, as the ministering angel moving with her lamp down the long lanes of pain in the military hospital at Scutari, but even more thankfully because she wrought a revolution in hospitals and made nursing a science. Every modern hospital with its extensive equipment, staff of workers, and evidence of skill applied in the treatment and amelioration of disease is in a sense the gracious product of that revolution.

The particular object of the National Hospital Day movement is to encourage the public to visit a hospital on May the 12th so that all may become acquainted with the methods of conducting these institutions. their curative, custodial, educational and research activities, and by so doing to dispel the old time fear of the hospital and to compel the conviction that it is the proper place to come to when one is ill.

MEASLES SERUM

The Laboratories of the State Board of Health have again been very fortunate in securing a liberal supply of measles serum through the courtesy of Drs. Cowley and Armstrong, of Berea. This serum was secured and prepared from convalescent adult measles cases, according to the directions and procedure outlined by Dr. William H. Parks, of the Research Laboratories of New York City. This serum has been used extensively in New York and in Berea College, and we feel that it is just as efficacious in the prevention and cure of measles as diphtheria antitoxin is in the case of diphtheria. It is dispensed in 10 c. c. vials, with complete directions.

Arsphenaminized Serum Therapy of Cerebro-Spinal Syphilis—The Swift-Ellis treatment was employed by Henry S. Blesse, Hot Springs National Park, Ark. (Journal A. M. A., July 20, 1929), in a series of 100 cases without modification. The object of this series was to note the influence of arsphenaminized serum therapy on the spinal fluid Wassermann reaction of patients, suffering from cerebrospinal syphilis, whose spinal fluid Wasserman reaction had not been disturbed by two intensive course of arsphenamine administered intravenously. The intraspinal treatment was given by administering 0.75 Gm. of neoarsphenamine intravenously, and five minutes later 50 cc. of blood was withdrawn from the patient by the open method of introducing an 18 gage needle into a convenient vein. Blood was then kept at room temperature for one hour to permit clotting, after which the clot was freed from the sides of the tube or container with a platinum wire. It was then placed in the refrigerator for twenty hours, after which, 5cc. of serum was removed by pipet. The serum obtained was then inactivated for thirty minutes in an oil bath at 57 C., after which it was cooled to room temperature. Spinal puncture was then performed with a 20 gage spinal needle, after which the 15 cc. of serum was introduced by the gravity method. Of the 100 patients that received two courses of intraspinal therapy, twenty eight had negative spinal fluid Wassermann reactions in all dilutions, on completion of all treatment, thirty-four had distinct reduction, there was slight reduction in nineteen, and in the remaining nineteen there was no change.

ORIGINAL ARTICLES

SYMPOSIUM ON INFLUENZA

CLINICAL COURSE AND TREATMENT OF INFLUENZA*

By W. J. Shelton, Mayfield.

Influenza is the most contagious of all diseases. There is no disease that spreads over so much territory and spreads so quickly. Contributions are numerous and opinions are divided on its course and treatment. It is supposed to always be present to some degree. Periodically we have epidemics and pandemics which cover the entire country rapidly. This sudden distribution is a reliable feature for its diagnosis. We have not yet acquired any means by which we can control its course, sanitation and hygiene being our only weapons of defense and they are not very effective. During the pandemics, as in 1918, it is more virulent, more contagious and spreads from one country to another until it gradually looses its force. During its quiescent stage there are sporadic cases which in course of time assume this virulent character again. No one knows how this occurs. Its history is that it always increases during the winter months which has been verified by the epidemics in our country. The epidemics vary in severity and in character of complications, which makes the clinical course different and gives a different appearance to the disease, but the primary symptoms remain the same. Different features may take the ascendency in different individuals in the same epidemic but it usually remains clear that you are dealing with the same condition. The germ causing this disease has not been determined and there has been but little knowledge gained of its course and treatment from recent outbreaks. The theories concerning it can neither be proven nor disproven. It is believed to be transmitted through the secretions of the nose and throat as many other infectious diseases are. Each epidemic has some characteristic that distinguishes it from the one following. In 1888 there were "certain nervous disturbances," the mortality was high among the old people, in 1918 broncho-pneumonia predominated and the death rate was extremely high in those from twenty to thirty years of age. Last winter the mortality was not so high and the complications were mostly of the head, yet the primary symptoms of this disease in all the epidemics were the same, except in point of severity. It must be recognized by the general features of the disease, which is a group of clinical symptoms that are alike in all cases during the same epidemic, but may be different in different epidemics, due to the character of the infection. Diagnosis is usually easy at such times, but we should remember that the symptoms vary in severity. The line of demarcation between influenza, grippe and colds is not well defined. We differentiate the three by the effect they have upon the patient, rather than by any specific cause. There is no certain standard by which we can be positive in our diagnosis. When one suffers from prostration, headache, backache, pains in the eyes and over the body chilliness and sweating, we can be sure that this is the onset of influenza even if the germ has not been isolated. These symptoms are immediately followed by fever and cough and often followed by various complications. There is a tendency to cyanosis in some cases, which should always be considered grave. However, it did not occur in as large per cent of patients in last winter's epidemic as it did in 1918, which I am sure is due to the fact that pneumonia did not complicate such large per cent of patients in the last epidemic. The pulse rate in uncomplicated influenza is slightly elevated, respiration is not increased. There is usually intense toxemia in both simple and complicated cases. In all cases there is some involvement of the respiratory tract, the nose, pharynx, larynx, tonsils and lungs. It is in this field we find the chief pathology, as infection appears to take place by the way of the respiratory route, though all tissues of the body give evidence of intoxication according to pathologist. Broncho-pneumonia has been classed as a part of this disease but it is not. It may or may not be present,but is always a complication when found. As we do not know the exact relationship between influenza and colds we often forget the seriousness of influenza and regard it lightly as a cold until suddenly it becomes epidemic and the symptoms become severe. We all know that it may change from what appears to be only a "bad cold" to a serious disease. The symptoms changing quickly from mild to severe and the patient becoming dangerously ill within a few hours. Often cases run two or three days without any indication of seriousness, then suddenly become delirious and cyanotic and die of pneumonia in an extremely short time. Prostration is always outstanding. To me it is the most noticeable feature of the disease, it is always greater than the symptoms and findings seem to warrant. The peak of the temperature is usually reached on the first or second day and subsides quickly. Clinicians have all found a deficiency of the leukocyte. Bronchitis is one of the most aggravating of all symptoms manifested. One attack of influenza usually predisposes to other attacks during the same season. It is not a serious disease in itself, prognosis depending on the complications. By early care dangerous complications can be avoided but when they occur they should receive the same treatment as they do when they occur without influenza. Broncho pneumonia, empyema, otitis media, mastoiditis, sinous trouble, intestinal and renal disorder and tuberculosis when complicating influenza should each receive the special attention necessary without regard to the primary disease, these complications should be looked for in every case of influenza. I am sure that broncho pneumonia has produced more deaths in recent epidemics than all other complications put together, yet it should be treated just as it should when it occurs without influenza. It is generally understood that toxins of influenza have a definite tendency to start up any slumbering focus of infection that may be in the body, and each epidemic has left a group of patients who have not returned to normal health. These are the patients who should have the careful attention of the physician. . Occasionally dormant cases of pulmonary tuberculosis become active and progressive following influenza, often in these cases it is difficult to tell if we are dealing with tuberculosis, empyema or a "slowly resolving pneumonia," in such cases, repeated x-ray examinations are essential. In any continued case where physical signs are obscure x-ray examinations should be made. All forms of mental disturbance accompanying influenza, whether produced by toxins or otherwise, should receive special consideration. We really know very little about influenza, we do have sufficient evidence to convince us that influenza is a preventable disease, although we are not preventing it. Carelessness and ignorance are the chief causes of its spreading. Certainly the chief means of prevention is isolation of the patient. The patient who sneezes, coughs and spits promiscuously is the greatest factor in spreading this disease, since a great number of particles expelled from the mouth and throat of the infected person may be taken in with each inspiration of those who are near by and the air passages being the chief route of the infection, there is hardly a chance for them to escape. The danger is not from the bedfast patient but from those who have mild attacks and continue to go about. A few patients of this type can easily infect thousands, they should be taught that the bed is the best place when symptoms occur and should stay there until they all disappear. Early treatment often prevents serious consequences. All cases should be studied with the aim of preventing later disease by therapeutic and prophylactic treatment. When influenza becomes prevalent all protective measures should be observed until the epidemic subsides. Stringent hygienic rules should be enforced as the disease seems to be independent of ordinary measures. Avoidance of crowds, hot rooms and rooms with insufficient humidity should be closely adhered to. Good ventilation, sunlight, plenty of sleep, a nourishing diet and warm clothing are all necessary in preventing this disease and lightening it in case of attack. The control of this disease depends largely on each individual, personal hygiene should be well looked after, when an individual protects themselves they protect others. The treatment must be symptomatic as the cause is not definitely known. Bacterial vaccines and immunogens seems to have no effect on the cause or course, they may raise the patient's resistance to secondary infections. Ventilate thoroughly in cold weather by opening doors and windows of adjoining rooms, water should be given freely and the diet in the beginning should be fluid in order to promote elimination, laxatives should be given until the bowels act freely then kept free, but patients should not be continually purged. Many patients require little drug treatment beyond elimination. I use as few drugs as possible. A sterile salt solution used as a spray and gargle is of some value. Early in the disease a hot bath before going to bed followed by eight or ten grains of dover powders gives relief. Tincture of gelsemium, ten drops every four hours often gives good results. For the relief of all pains and fever acetylalicylic acid in five to ten grains doses is by far the most satisfactory remedy I have used. This may be combined with strychnine, 1-60 or 1-30 grains each dose, I do not use it where there is cardiac disturbances, I cannot see that this drug increases the depression when given in moderate doses for a brief period of time. In extreme cases it becomes necessary to give morphine hypodermatically. I refer to those cases where suffering is intense, where there is great prostration and the patient is restless and sleepless, in such cases morphine with atrophine at bed time will insure a night's rest from which only good can result, nothing is equal to sleep and rest in this type of patients. I see no indication for digitalis unless there is cardiac irregularity. I have seen epistaxis followed with great comfort, which makes me conclude that blood letting in selected cases is a good procedure, although I have never used it as a remedy. I believe that large doses of quinine in the early stages in those patients that remain chilly, is good. Keep an ice cap on the head when the temperature is high. If it becomes necessary to increase the action of the kidneys and skin I like sitrate of potash in ten grain doses with spirit of nitrous ether, it will also lower the temperature. In most cases the cough requires some expectorant mixture. I think that alcohol is a good remedy in those patients that will not eat and have little tendency to recuperation. The treatment of influenza in early life is simple, mostly hygienic and dietery. The only medicinal treatment needed is laxatives, febrifuges and occasionally an expectorant for the cough. Milks, soups, cereals and fruits should constitute their diet for some time. Cod-liver oil should be given in all cases during convalescence. Otitis media and mastoiditis should always be looked for in children. In those that are vomiting and have a mild diarrhea, food should be withheld for a short period of time. In all forms of influenza, regardless of age, our chief aim is to prevent complications, the two factors that have most to do with this is hygienic and dietetic treatment. For this reason the diet should be seen after closely in all forms of influenza and should always be nutricious, consisting mostly of liquid and should be given freely from the start. It prevents exhaustion, loss of energy and loss of tissue and promotes elimination. It conserves all the vital forces of the body and prevents depression, the factors that are so much desired in this disease. Prophylactic measures are far from satisfactory but the concentration of all efforts in that direction is highly commendable. I am of the opinion if we would depend more upon the hygiene and diet in simple influenza, our patients would do better and the depression would be less. I have discussed the most common forms of influenza, its manifestations are complex There is no other disease followed by so many serious after effects and until the cause has been definitely shown, the physician can only minimize the danger, reduce the suffering and modify the course of the disease.

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*Read before the Kentucky State Medical Society, Louisville, October 21-24, 1929.

I have had three personal ideals: One, to do the day's work well and not to bother about tomorrow. You may say that is not a satisfactory ideal. It is; and there is not one which the student can carry with him into practice with greater effect. To it more than anything else, I owe whatever success I have had—to this power of settling down to the day's work and trying to do it well to the best of my ability, and letting the future take care of itself.

The second ideal has been to act the Golden Rule, as far as in me lay, toward my professional brethren and toward patients committed to my care.

And the third has been to cultivate such a measure of equanimity as would enable me to bear success with humility, the affection of my friends without pride, and to be ready when the day of sorrow and grief came to meet it with the courage befitting a man.

Sir Willam Osler.

X-RAY DIAGNOSIS OF THE COMPLICATIONS OF INFLUENZA*

By C. D. Enfield, M. D., Louisville.

The common complications of influenza in the diagnosis of which x-ray examination plays an important part are confined anatomically to the head and chest. In the head there are inflammatory processes affecting the mastoid cells and acute and chronic infections of the various nasal accessory sinuses. Of these the antra are far most frequently involved and the frontals, ethmoids and sphenoid with much less frequency. In the chest the common lesions are pneumonia of either the diffuse or lobar type and empyema.

Probably the radiologist is called upon more frequently in connection with empyema than with any of the other lesions. It is a fact, however, that information obtainable only by x-ray examination is of the utmost value in the early diagnosis of pneumonia and should be sought for much more often than is usually the case.

It is recognized that there are inherent limitations to this method which circumscribe somewhat its field of usefulness and it should be further emphasized that the ultimate value of x-ray diagnosis in this, as in other connections, hinges very definitely upon skilled interpretation. Here, as elsewhere, technically excellent films may be more of a hindrance than a help toward diagnosis, if they are interpreted by a surgeon, internist or general medical man not qualified by experience and training to pass upon strictly roentgenological points in diagnosis.

Whether or not it is necessary or advisable to perform an x-ray examination in any suspected complication of influenza may, then, well depend upon the availability of expert roentgen consultation since first-class clinical judgment, unaided, is apt to be more accurate when not befogged by an inexpert roentgen interpretation.

The undue persistence of fever after the normal clinical course of the uncomplicated disease has been run is perhaps the primary indication for x-ray examination of the chest with regard to empyema. This is an especially important indication if the physical signs are obscure; but the presence of apparently perfectly definite physical signs indicating the presence and situation of fluid should not be regarded as an excuse for omitting x-ray examination since it is notorious that physical signs as to the extent and distribution and even as to the presence of considerable amounts of fluid in the chest are often inaccurate even when elicited and interpreted by the most skilled.

The chest should be examined by x-ray in connection with suspected pneumonia much more often than is done and it should be more generally understood that this method permits positive demonstration of the presence of the disease as well as accurate anatomical determination of its extent and distribution very much earlier than all other methods combined. With the hospitalized patient such an examination does not necessitate a trip to the x-ray room, but can be made quite satisfactorily in the patient's own bed with an apparatus especially designed for such work. In the home, if electricity is available and if the patient's condition demands it, the examination can be done with a portable apparatus similar in scope and capability to the hospital bed-side unit.

In the presence of early pneumonia, the chest films will show an increase in density due to lack of aeration of the affected lung tissue which may vary from the almost liver-like density of consolidated lober pneumonia to the marked, diffuse increase along the trunks characteristic of early broncho-pneumonia. In the lobar types of the disease the lober distribution is clearly shown and certain, fairly clear-cut characteristics tend to differentiate even between the different types of pneumococcus infection.

Fluid in the chest, whether purulent or of some other character, causes primarily a great increase in density as constrasted with the normal, aerating lung tissue. With small collections of fluid, this sharply localized area of greatly increased density within the pleural sac is the only deviation from the normal appearance and x-ray diagnosis must be made on the basis of the location and character of shadow, considered in the light of the history. With small collections of free fluid, the location is usually basal. Less frequently it may be seen to extend upward along the axillary margin causing a ribbon-like density along the outer rib shadow. Such a collection of fluid, if entirely free, will move about somewhat with changes in position. If, as is often the case, the fluid is encysted or confined by adhesions, it will remain quite fixed in position regardless of changes in posture. Less frequently small collections of fluid are confined between the interlobar septa. Such interlobar empyemas may at times become quite large and encroach seriously upon the neighboring lobes. They may drain spontaneously by rupturing into bronchus. They are often very difficult to diagnose by physical methods and sometimes are very difficult to locate surgically even after an accurate x-ray localization has been performed. With the large collections of fluid, secondary changes due to the mechanical displacement of the other contents of the chest by the fluid are observed and contribute materially to the differential diagnosis between fluid and consolidation within the lung tissue itself; thus the heart is almost invariably displaced to the opposite side and similar displacement of the other mediastinal structures may be observed. The striking phenomenon of a fluid level is, of course, only seen when the pleural sac contains both fluid and air. This level, visible on account of the sharp contrast in density between gas and fluid, of course, changes with posture just as does the fluid level in a glass of water or in a partially filled bottle. This interesting and striking phenomenon is, however, so rarely met with that it is not of great importance diagnostically and more especially since it could hardly be mistaken even by a novice.

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*Read before the Kentucky State Medical Association, Louisville, October 21-24, 1929.

The principal opportunity for error in the x-ray determination of the presence or absence of fluid in the chest lies in the possibility of mistaking consolidation in the lung, or a new growth, or other causes of density within the chest, for an accumulation of fluid, or vice versa. In this connection it is sometimes necessary to consider carefully not only the purely roentgenological signs such as displacement of intrathoracic organs, character and position of the shadow, movement on change of posture during a fluoroscopic observation and with films made in different positions; but also the clinical course of the disease, the blood picture and physical findings and, in fact, every source of information. In fact, here as elsewhere, an x-ray examination should be truly a consultation between the internist, and perhaps the surgeon, and the radiologist, who should not lose sight of the fact, nor should he allow his confreres to forget, that he is a physician and not a technician.

Accurate localization of fluid in connection with anatomical landmarks is especially important if the pus is encysted and in a somewhat unusual position since it may prevent the necessity for a second rib resection in case the original one was done at too high or too low a level to reach the fluid.

The mastoid examination is not only of value in determining whether the ear complication has involved the mastoid cells but is also of great value in showing the distribution and extent of the particular mastoid in question for the guidance of the surgeon, when operation is indicated. It should be made clear, however, that an expert and adequate mastoid x-ray examination should do much more than this. It should show with a very high degree of accuracy the extent to which bone involvement has taken place and the extent to which the cells are filled with exudate. A mere determination of the presence or absence of mastoid involvement is not today considered the function or scope of the mastoid x-ray examination. Such a meager report is justifiable only in the case of small children who are unable to co-operate and in whom the examination is apt to be technically somewhat unsatisfactory. In order for the radiologist to form accurate conclusions as to the extent and character of mastoid involvement, it is necessary, however, that he be not only familiar with the interpretation of mastoid changes through long experience and training but also that he be in the habit of following his mastoid cases to the operating room so that he can observe repeatedly the actual pathology associated with the various abnormalities depicted on the film. It is necessary that there exist a spirit of co-operation, of mutual respect and confidence between the aural surgeon and the radiologist, and certainly the most constructive results are achieved when the two have been in the habit of working together for some time.

In both mastoid and sinus work the technique of making films, while not stressed in this article, is extremely important, since, contrary to the once rather popular impression, it is quite impossible for even the most skilled to make satisfactory and complete interpretations from technically bad films. Since technique is by no means standardized each radiologist especially interested in this type of work has his own variations. However, I feel very strongly that any examination based on only two or three flat films, is bound to be somewhat inadequate, except in the simplest and most clearly defined cases.

It is true that empyema of one antrum, the commonest sinus lesion complicating influenza, can be adequately diagnosed from a single film, properly made. The diagnosis of early or old hyperplastic involvement of the posterior sinuses, however, calls for considerable refinement in both technique and interpretation. Great advances have been made in the past few years in this particular phase of x-ray diagnosis and today it is considered that involvement of the posterior sinuses should be diagnosed with practically the same accuracy which has for some years past applied to diagnosis of mastoid involvement. Recently, outlining of the diseased or suspected sinuses with iodized oil has come to play an important part, especially in determining the extent to which hyperplastic change in the mucous membrane is present. In this field, as in mastoid work, it is extremely desirable that close co-operation exist between the rhinologist and the radiologist and that the pair shall have been in the habit of working together so that each may evaluate the other's interpretations in the light of his personality.

In both mastoid and sinus work the existence of previous disease may tend to obscure greatly the dignosis of the complication. It is at times very difficult to differentiate old from recent changes and in such instances, if there has been a previous x-ray examination, it is of great value to compare the recent with the old films.

A few cases will be cited briefly to illustrate some of the points made.

An elderly man who was not recovering satisfactorily from an apparently typical attack of influenza, was brought to the hospital and referred to a surgeon for drainage of an empyema diagnosed solely on physical signs. X-ray examination of the chest was made but the surgeon proceeded immediately to rib resection without waiting for the interpretation. While the operation was being performed, the radiologist was reporting an old,extensive thickening of the pleura having no connection with the recent influenzal process and complete absence of fluid. The event proved the radiologist's interpretation correct but too late to be of benefit to the patient.

A child on x-ray examination showed increased density at the right base. The surgeon, being in a hurry, interpreted the wet film to his own satisfaction and made several punctures without finding fluid. Unaware of this fact, the radiologist later read the film as indicating pneumonia without fluid. Two weeks later the same chest was again examined. The surgeon again made his own interpretation and informed the family that no fluid was present. The radiologist's interpretation, however, indicated the presence of fluid, which was removed a day or two later. In neither instance was the surgeon willing to wait for an interpretation.

A doctor's wife was referred for examination of the chest on account of persistent fever following a mild influenzal attack. This proving negative, films were made of the nasal accessory sinuses on the roentgenologist's initiative although competent rhinological examination had given no evidence of sinus disease. The right antrum was found to present a very dense shadow with blurred outlines. Empyema of the antrum was diagnosed, drained and fever ceased.

A young woman presenting ear symptoms following a mild influenza, was referred for mastoid examination, which showed extensive changes in the right mastoid. The radiologist was about to report this as a surgical mastoid when, in questioning the patient, he learned that there had been two previous influenzal attacks in years past. He was unable to state whether the marked pathology evident was of old or recent origin and advised that the decision as to surgery be based entirely on clinical grounds, disregarding the x-ray findings except insofar as they indicated the undoubted presence of old or recent disease. The patient recovered from the attack without operation.

An interlobar empyema of considerable extent was diagnosed and localized by an x-ray examination done some two or three weeks after it was first indicated. An able surgeon made three attempts to drain this pus collection and did not completely succeed in doing so in either attempt. At autopsy the pus collection was found very deeply situated almost at the lung root, in such a position as almost to defy attempts at drainage. One could not help but feel that had the diagnosis been made earlier before adhesions were so firmly established, drainage would have been successful and the outcome might have been favorable.

EMPYEMA AND INFLUENZA*

By E. S. Allen, M. D., Louisville.

A bacterial invasion so overwhelming and prostrating must necessarily leave the tissues of the body defenseless. Its incubation period is too short for marshalling of cell forces.

Pathogenic and pyogenic organism resident in or on the mucous membranes kept inert by what we call normal cell resistance, easily invade the tissues, grow unrestricted, producing disease according to their pathologic characteristic. As the respiratory membrane always harbors infectious bacteria among which is the pneumococcus,—pneumonia is the most constant complication of influenza and empyema is a sequella to pneumonia.

Etiology: The influenza bacillus, found by the majority of laboratory investigators in 80% of cases of influenza, is probably the cause of the disease. Though the bacillus pneumocentis is found in a high percentage of cases.

Pathology: Empyema is as frequent a sequella to influenza in proportion, as pneumonia complicates it. Pneumonia, either of streptococcic or pneumococcic origin develop in about 20% of cases and empyema in approximately 5% of pneumonia cases. (Type 4 Pneumococcus in 50%). Whether the phagocytes destroy bacteria as they get by the protecting epithelium of the skin and mucous membrane, or whether the resident cells repel invasion by some biologic activity, making it impossible for bacteria to utilize the body fluids, is not definitely determined. Altered cell chemistry by toxins and trauma or nutrition, makes possible unresisted invasion by pathogenic organism. Too, the waste products of bacterial metabolic processes have deliterious effect upon tissue cells, unresisted invasion results until defensive forces can be generated in the form of an antitoxin and antibodies. It is more probable that influenza toxin so arrests all cell chemistry and inhibits cell resistence to the already present pneumococcus and streptococcus, than, that a symbiosis exists between these germs, each being more virulent when associated with the influenza bacillus. Influenza not complicated by pneumonia, is not occasioned by a high mortality. Pneumonia not induced by influenza is a relatively low mortality.

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*Read before the Kentucky State Medical Association, Louisville, October 21-24, 1929.

Pathology: The pneumococcus, streptococcus and staphylococcus incubated in a fluid biologically favorable for their growth, rapidly invade the tissues, and by their metabolic processes liberate a toxin which is destructive to the cells lining, the bronchi and alveoli of the lung. The defensive forces of the blood and lymph stream respond, filling the bronchi and alveoli with cells and fluid, creating the local reaction to an irritant, known as inflammation, all lymph spaces and even capillaries are blocked, partial or complete consolidation has taken place. There is an inflammation of the lung. Pneumonia exists. Liquifaction necrosis takes place as the peptogenic enzyme of dead phagocytes, digests and disentegrates this necrotic mass of dead bacteria and tissue cells. The patient expectorates a muco-purulent material, tinged with blood, nature immunizes with her antibodies, and anti-toxins. The patient recovers, or as in an infection from pyogenic organism, elsewhere, cell defense is so complete as to strangulate and starve the cells where the fight has been most intense, a circumscribed area of cells necrosis, with liquifaction taking place. There is no avenue of escape, the protective wall is complete, an abscess results, either one large abscess, the result of confluence of numerous miliary abscesses, or numerous small abscesses exist throughout the lung. The abscess might rupture into a bronchus, or by an extension of the inflammatory reaction result in gangrene of the lung, by blocking or thrombosing its blood supply.

If the small abscesses are in the parenchyma of the lung, just beneath the visceral pleura, they rupture into the pleural cavity; or bacteria penetrate this thin membrane, producing an empyema. Pyogenic organism, poured into a closed serous sac, into a perfect pabulum, at a temperature of 100 to 102 with new fluid constantly added must multiply rapidly, until killed by their own metabolic properties. As secondary elevation of temperature and respiratory embarrassment when a pneumonia patient is expected to be convalescing is suggestive of an invasion of the pleura.

An invasion of the pleura by pyogenic bacteria, which acting as an irritant causes an intense hyperaemia of the pleural membrane. Leucocytes by some chemotatic action engorge the endothelial lining of the sac, in fact the same cellular phenomena takes place here, as in any other tissue, and the same inflammatory reaction, with pain, heat, redness, swelling, except that the swelling is relieved by a pouring out of the serum into the closed sac, as most of the lymphatic vessels have been blocked by lymph thrombi, little absorption takes place. The cellular fight goes on in a closed sac. Dead bacteria, leucocytes and endothelial cells, with liquifaction necrosis, in other words there is pus formation. From 1000 to 4000 cc of purulent fluid accumulates in the pleura, compressing or collapsing the lung, pushing the heart and mediasternum to the opposite side. According to the amount of fluid and cardiac displacement does respiratory embarrassment manifest itself.

DIAGNOSIS

First, delayed pneumonia convalescence or an apparent recurrence of temperature and respiratory elevation. The chest is dull on percussion with skodoic resonance at apex, absence of distinct respiratory sound, with an exaggeration at apex. Bulging of chest with opposite side expanding out of proportion to affected side. Fluoroscopic examination and the aspirating needle. The diagnosis is generally made by interpretation of physical signs and confirmed by x-ray or needle.

TREATMENT

Ambrose Lockwood in an excellent article on the empyema problem (Archives of Surgery, Jan. 28, vol. 16) states that "few diseases have perplexed the profession so generally, since the earliest times, as has empyema. Even in this advanced era of medical development, there is no agreement as to the treatment, as is evidenced by the various methods advocated, the persistent incidence of chronic empyema, and the extreme variations in mortality." He states that Hippocrates first recognized the disease, and advised intercostal incision or trephining of the rib for drainage.

Galen, the inventor of the aspirating syringe, advocated aspiration. The fear of admitting air into the pleural cavity and dread of sepsis, few incisions for empyema from the time of Galen till that of Lister were practiced.

"(Lockwood's article) quoting Paget's surgery of the chest, states that in 1872, Bouchet in a paper reports two cases as instances of good surgery, one a boy well after 16 months and 58 punctures, and the other case, the chest was punctured 123 times in 11 months. Tilly reports 48 cases with multiple punctures in which only 6 were saved, of 58 under the care of Dupuytren, all but two died, Sir Astley Cooper complained that he never obtained a cure."

Free drainage was the practice after Lister, until Murphy, McEwan and Myer, advocated aspiration in the acutely sick, only when pressure became a faetor. Murphy's method was aspiration and injection of a 2% formalin solution. The high operative mortality in the early war, when a patient was acutely ill, influenced the profession to try some less radical means, and to appreciate the fact that an acute empyema was not always an emergency operation, unless pressure from the collection of pus materially embarrassed respiration, and interfered with heart action. Aspiration carefully and slowly done to relieve pressure, and air replacement to allow a slow resumption of organs to their normal relations. Pus should be evacuated, but in an acutely sick patient, experience has proved it a dangerous procedure. Multiple aspirations at this period is no doubt the safer method, unless the pleuritic fluid is frank pus, if merely cloudy, I see no occasion for any surgical interference, except when circulation and respiration are embarassed from pressure. Contrary to the advice of some, I see no contra-indication to aspirating a small amount for diagnosis, as the fluoroscope and x-ray picture only indicate the presence and amount of fluid, giving no evidence as to its consistency, yet early in the disease we believe that the fluid is only of a sero purulent type.

Where pressure does not demand removal of fluid, it might be well to wait several days or a week or more until systemic protection has developed. A sudden withdrawal of pressure from an actively hyperaemic membrane must result in an engorgement of this membrane with blood and a rapid sucking up of toxic material into the circulation. It might be on this basis that such high mortality followed sudden evacuation of this purulent fluid in the acute empyema cases during the war. The lymph vessels are wide open, bacteria and their toxic products are limited to the endothelial covering of the pleura, by intraplural pressure, mechanically closing these small vessels. A sudden release of pressure, the membrane becomes engorged with blood, with a resultant over dose of toxin and bacteria liberated in the blood stream. Therefore, it is advisable to replace each syringe of aspirated fluid with a syringe of air, that intrapleural pressure be kept stationary.

Operation: When the condition has assumed a somewhat chronic form, when a degree of immunity has developed, and pus, not merely a cloudy fluid is aspirated, it is time for drainage.

Type of drainage: If the pus is thin, flows through a medium sized needle freely, it has been my custom to do a thoracotomy, under local anesthesia. The minor procedure can be performed on the smallest child, with no more discomfort than is occasioned by a very small hypodermic puncture. One half inch skin anesthesia and then the deeper structures and pleura, waiting about one minute for anesthesia. A Sharp abscess blade is pushed through skin, deep fascia and between the ribs, being careful to hug the upper border of the rib thereby avoiding the intercostal vessel. A trocar, (usually a large gall bladder trocar is sufficient) is inserted into the small incision and firmly pushed into pleural cavity. A fenestrated catheter, a size that has been tried, and known to thread through canular, is inserted, and canular withdrawn. It is well to evacuate a small amount of pus and clamp the catheter, instructing a nurse to allow a few ounces of pus to be evacuated every hour or so, or to connect the catheter with a tube which reaches into a bottle filled with Dakins solution, tying the bottle to the bed railing. If the patient is not too young, evacuation is assisted by having them blow into a siphon bottle. Should lymph thrombi occlude the catheter, a bulb syringe and Dakin's solution may be used to dislodge and disintegrate these sphaceloid masses.

In 1912, before having seen this method used, I operated on several cases of empyema, by doing a thoracotomy under local anaesthesia, using a gall bladder trocar and canular, and threading a fenestrated catheter through the canular and anchoring the catheter with a silk worm gut stitch. I kept the catheter clamped except at intervals when several ounces of pus were drained. Twice daily the pleural cavity was irrigated with warm boric acid solution. These cases made nice recoveries, not necessitating a rib resection.

When the purulent fluid becomes thick, a rib resection is the best method for a speedy recovery. Care must be taken to avoid too sudden exacuation of pus, and as sudden aspiration of air and collapse of lung.

Rib resection under local anaesthesia can be done with as little discomfort as a thoracotomy.

A very fine hypodermic needle is used in producing a small area of anesthesia, a larger and long needle is then used to anesthetize. About 3 inches of skin directly over the 8th or 9th rib in axilla or beneath the angle of scapula. A very sharp scalpel is used to incise the skin and then the deeper tissues, are infiltrated, being sure to block the intercostal nerve well back. The incisions of the deeper structures should extend through the periosteum of the rib. I have found that an aneurism needle is very serviceable in separating the periosteum from the posterior surface of the rib. A costotome is used to resect an inch or two of rib, before incising the pleura, an aspirating needle is used to confirm the diagnosis. A rubber tube, fenestrated is inserted into pleural cavity and six or eight ounces of pus evacuated. Gradual evacuation to be carried out after the patient has been put to bed.

I find it practical to introduce several silk worm gut sutures, deep, including edge of periosteum before the pleura has been incised, as there is less wound contamination, when this is done. A small cigarette drain is placed in wound to prevent dissemination of pus into tissues. The tube is fixed by winding two of the silk worm gut sutures in opposite directions about the tube and tying them. After the patient is in bed, nurse is instructed to remove the clamp and evacuate four to six ounces of pus every hour or so, or to place the distal end of a connecting tube in a large bottle half filled with Dakin solution. This prevents air aspiration. If the pus is very thick and flows with difficulty, the cavity is irrigated with Dakin's solution, or boric acid solution. Unless there is a stoppage of tube with sphaceloid masses, or the pus is very thick, I do not irrigate.

It has been my custom to have patient practice some blowing exercise, to assist lung expansion and hasten complete evacuation of pleural cavity.

After using every means to completely empty the pleural cavity and produce full lung expansion, I have had cases with pockets which drained only partially, as a- result the convalescence was slow, dragging on for months, with a discharging sinus, some of them requiring a secondary operation. The x-ray is of great assistance in locating these pockets, and direct drainage can be instituted.

SUMMARY

1. Empyema is not a serious disease unless it follows influenza and pneumonia.

2. The operation for the evacuation of pus is very simple and should always be done under local anesthesia.

3. Rib resection and drainage does not always cure the condition, probably the operators fault in not establishing perfect drainage.

EAR COMPLICATIONS OF INFLUENZA*

By J. W. Nolan, Harlan.

The premier epidemic of Influenza in 1918 did not discriminate in the selection of it's victims, taking toll of all ages indiscriminately, but in the recurring epidemics it appears to have exercised a selective preference for the aged, very young and those whose disease resistence was lowered by debilitating ailments. In my opinion influenza is seldom diagnosed except in the presence of an epidemic. It is note-worthy that all camp cases in 1918 were admitted to the cantonment hospitals as "febricula," a term as devoid of diagnostic meaning as the formerly much overworked term "biliousness."

I feel that a paper on the aural complications of influenza must of necessity be of rather a general nature and without dogmatic statements. Influenza itself varies in type and toxicity and no two epidemics are quite alike in these regards. Owing to the fact the aural surgeon is not called upon, per se, to treat influenza it is difficult for him to determine what per cent of cases develop aural complications. In writing such a paper one really must be guided by his own personal experience with a particular epidemic in a particular place, as, for example, what might be true of influenza in a large center like Louisville, might not hold true of a smaller community where the 24-hour temperature variation, humidity, elevation and other conditions differ.

In my section of country influenza seems to show a predilection for the respiratory organs and from these severe involvements claims its mortality. With us, influenza without a coryza or rhinitis, is a rare bird and from this source the vast majority of ear complications arise. Chief among these is acute middle ear infection which is almost invariably fulminating in type and characterized by intense excrutiating pain. Aural examination may show dark vesicles on the canal or drum head. Bulging of the drum is variable but usually pronounced. The surface of the drum bears the characteristics common to all middle ear infections. The infection in these cases is frequently caused by the hemolytic streptococcus and when so caused produces the more severe infection. Other agents may be the pneumococcus, catarrhalis, diptheroid, colon or streptococcus. I think the bacillus of Pfeifer is rarely found in the discharge. Generally speaking, as distinguished from ordinary ear infections, I feel that those arising from influenza are apt to be much more severe in their intensity. In these cases palliative treatment may offer some, or total, relief from pain but if persisted in routinely may precipitate the graver complications in the mastoid, or intra cranium. By far the safest procedure is free incision of the drum to establish unhindered drainage and if, in spite of this, pain persists, do a paracentesis of Schrapnells membrane for the posterior drum incision does not always permit free drainage of the epitympanum when involved. In a few cases I have confessed to no little discomfiture to find pain persisting after incising the drum but this usually totally abated with paracentesis of Schrapnells. In this connection I say paracentesis because I think it will provide adequate drainage of the epitympanum and will be less likely to disturb the ossicular chain than a more heroic procedure. If not skilled in doing a paracentesis or incision, or an aural surgeon is not available, a warm solution of 5 to 10% phenol-glycerine may be instilled into the ear quite often and ice or cold applications applied to the mastoid for in this it is my firm conviction that such applications perform a preventive office and should be used routinely before mastoid symptoms are scheduled to develop. Water, as hot as can be comfortably borne, allowed to pass into the ear from a fountain syringe is quite effective in allaying pain. After the acute symptoms subside such cases should be carefully watched, if the aural discharge persists, as the patient then enters the subacute stage characterized by little or no pain when an epidural or perisinus abscess may form giving few if any symptoms.

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*Read before the Kentucky State Medical Association, Louisville, October 21-24, 1929.

While the ear is discharging we sometimes see diffuse external otitis but this condition is easily prevented by properly cleansing the canal and applying a film of vaseline or cold cream.

I have never been able to establish any relation between furunculosis of the canal and influenza but its occurrence should suggest investigation of the sugar renal threshhold. Last spring I saw three cases of myringitis bullosa complicating influenza but my experience leads me to conclude this condition was seen more frequently in the old days of grippe than in the modern days of influenza.

Middle ear infections are potentially a prelude to acute mastoiditis, and in turn, intracranial complications, but it is somewhat surprising to note the comparatively small number of serious cases of mastoid suppuration that have heretofore complicated influenza when we consider the wide prevalence of the epidemics, their virulent character and the proximate relations between the chief site of infection and the mastoid cells. Spontaneous central perforations of the drum are fraught with greater hazard than perforations in other portions for the reason that a puddle of pus underlies the perforation, no matter what the position of the head, allowing a very indifferent drainage of the middle ear. Conditions are made more auspicious by enlarging this perforation or disregarding it and making a classical posterior incision.

We almost invariably note tenderness of the mastoid with development of middle ear infection. In fact it is common in otitis furunculosis externa when the abscess is posterior, this condition sometimes producing a periostitis of the mastoid with swelling. This tenderness should cause little alarm if it occurs within six to eight days from invasion of the middle ear. The old Politzer clinic has for years taught that the mastoid is never involved under ten days from infection of the middle ear. This pronounciamento is a fairly reliable guide although the baseless legend that all painful mastoids should be opened has secured the credence of many. The symptoms of acute mastoiditis, in most cases, are too classical to justify enumeration here. The clinical symptoms are our guide. Skiagraphs, except in the hands of the very skilled, do not usually furnish evidence of sufficient conclusiveness to clinch a diagnosis but are always permissable and advisable. Having made the diagnosis the simple operation takes care of the situation most admirably.

The possible intracranial complications are complications of the middle ear and so distinctly come within the purview of technical and advanced otology and brain surgery they will be accorded a mere brief reference and dismissed from the scope of this paper. The development of perisinus abscess, sinus thrombosis, abscess of either fossa, etc., may portend surgical disaster in the intra cranium and present a situation of such seriousness and gravity that the most skillful efforts employed for their correction will be without avail, particularly in sinus involvement. Of course surgery here is the only tribunal of appeal and we not infrequently see these patients promoted from a condition of grave danger to complete recovery by operation. I have seen only one case with inner ear symptoms, these being of the labyrinth, which promptly subsided after mastoid operation.

Prevention of these various complications should claim considerable of our efforts. With an influenzal coryza or rhinitis the patient should blow and cleanse his nose properly, never both nostrils at the same time, but alternately. Blowing them together may force infection from the nose through the Eustachian tube into the middle ear. This is the usual case. This simple precaution is so important it should be taught children both in the home and school. In using a douche or the usual washes, the head should not be tilted very much backwards. This extreme position may allow a torrent of infection or wash to enter the middle ear. Handkerchiefs should be changed often. The Japanese are far more sanitary in this respect than we, for when they blow the nose they use a soft paper and either burn or throw it away. We rather like the idea of carrying the various festive germs about with us in our pockets along with a buckeye, potato, rabbits foot and other talismans of traditional magic.

Persisting chronic influenzal discharge from the middle ear in the young suggests the removal of tonsils and adenoids, but as a rule both patient and surgeon may be disappointed in this unless tube infection has been eliminated, or appropriate attention directed to them if involved. A simple method of determining tubeorrhea is to cleanse the ear, apply gentle suction with Siegels otoscope, drop in alcohol and incline the head to the opposite side. If a sensation of warmth or burning is noticed in the throat, this indicates an open tube and steps should be taken to stop its feeding a stream of infection into the middle ear. Silver is the premier drug for this purpose. Having disposed of this avenue of infection we can then promise a salutary effect upon the discharge by removing tonsils and adenoids.

After a night of indifferent repose, I awoke a few mornings ago to vague consciousness somewhere on the slope between wakefulness and sleep to find I had a head cold. At first blush I regarded this with dull unconcern but upon reflection I pictured the possibilities of this all too common malady, both as an entity per se and as a harbinger of influenza, and found myself engaged in forecasting some very incontestible realities in store for me with the undertaker playing an important role, but further in my reverie I indulged the expectant hope that investigations now in progress would soon yield a quick speedy cure for this common ailment and thus confer upon humanity a boon almost equal to the promise of salvation itself.

Inflammation of Female Genitalia Caused by Contact with Children Suffering from Vaccination Rash—Inflammation of the outer genitalia was observed by Fischer in a woman, aged 34. The anamnesis reveals that her three children had been vaccinated recently. In the youngest child, who slept with the mother, the vaccination lesion had suppurated. For several days the woman had felt a strong itching sensation on the vulva. An inflammation developed which was followed by edema and ulceration. Following applications of matricaria and dressings with ointment, the patient recovered quickly.

PSYCHOSES FOLLOWING INFLUENZA*

By H. B. Scott, M. D., Lousiville.

It is generally believed that of all infectious diseases influenza is the most likely to be followed by mental disorder. This as a rule is of a favorable type, but it is not infrequently the starting point of final dissolution. The most dangerous ages are early youth and critical periods such as the climacteric and the puerperal condition. Harris, discussing influenza as a factor in the etiology of psychoses based on a study of 18 cases observed by him, found that the psychosis bore no relation to the character of the influenzal attack, being liable to occur after mild, as well as after severe attacks. The symptoms in most cases developed in less than two weeks after the febrile period, but in some cases might not appear for three months. Delusions and hallucinations were the most common symptoms in this series, being present in 10 of the 18 cases. Depression was the most pronounced symptom in only three cases, whereas excitement and destructive tendencies were present in 14, although any form of psychosis may result, dementia was the most common in this series, being found in 8 cases. The average of the patients so diagnosed was 27 years. Pierce and Wilson reviewing the observations made on the subject in 1919 quoted the work of Menninger who found that apart from the febrile deliria there is an interval of from two to eight days between the termination of the influenza and the onset of the psychosis. They found many writers were convinced that there is always some latent predisposition, all seemed to agree that the type of influenza has nothing to do with the resulting psychosis. Weber noted that delirious statis with motor agitation and hallucinations, were developed within 4 to 10 days. He considered the prognosis was good. Pierce and Wilson stated that their experience was much less fortunate, a large number of cases were under treatment presenting marked motor agitation, very vivid hallucinations of sight and terrifying delusions. In some cases there were also both conditions and olfactory hallucination. The associated type of influenza varied. Bronchopneumonia was present in many cases but the severity of the symptoms was out of all proportion to the physical signs found. No instance of recovery was recalled. It appears to be an agreed fact that the character of the influenzal attack bears no relation to the character of the resulting psychosis; furthermore, it has been noted that there is no parallel between the extent of the affection of the lungs which may occur and the severity of the mental symptoms. McCowan and Cook have made the following classification following a study of a large number of cases over a period of four years in the West Park Mental Hospital, Epsom, (a) Bradyphrenic (b) Depressed, (1) reactive; (2) agitated; (3) Hypochondiacal; (4) psychasthetnic, (c) Paranoid; (1) systematized delusions; (2) unsystematized delusions. (d) Apachi; (1) delinquent; (2) restless.

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*Read before the Kentucky State Medical Association, Louisville, October 21-24, 1929.

The encephalitic temperament is marked by a definitely simple and childish outlook and a regression in emotinonal values, well seen in the morbid craving for attention exhibited by nearly all sufferers. The patient and his illness must occupy the center of the stage. The doctor entering the ward is greeted by every patient; those who can walk may follow in a body, each endeavoring to attract attention to himself, while the most helpless of Parkinsonians attempts as well as he can to bring the doctor to his side. He is usually hypersensitive and will notice the most trivial things connected with being unnoticed. The encephalitic psychotic tends to show keen insight into his own disease. The Bradyphrenic type.—The main body of Parkinsonians in addition to the characteristic temperament, display a retardation of cerebration which is usually but by no means always proportionate to their individual physical retardation. This symptom, which appears to be correlated with an unpleasant sense of effect in initiating thought or movement, brings poverty of ideation as a natural corollary in its train. All grades of Bradyphrenia are found from the mild retardation to marked lethargy. The latter sit or lie with their eyes closed, apparently asleep; they are only roused with difficulty and every attention has been givn them, their sommolence is, of course, quite different from the drowsiness of the acute stages. It is important to differentiate the Bradyphrenic, who has merely lost the power of emotional expression, from the stuporose patient who has lost the power of feeling emotion.

Depressed Type. Depression is by no means an uncommon symptom, and it has been divided into reaction, agitated hypochondriacal and psychasthenic groups. Reactive depression depends upon the peculiar sensitiveness of the patient to the gravity of his disease and is mainly evident in the early stages of Parkinsonism. The patient feels his increasing disabilities becoming an intolerable burden, which added to his progressive temperamental changes, is only too likely to lead to thoughts of suicide. As in other reactive depressions, the apparent cause is doubtless only precipitating, the latent cause being some flaw in the mental makeup. In these cases, however, the flaw need not be a serious one, as the precipitating cause is so severe.

It is a difficult and depressing task to realize philosophically that one has suddenly ceased to be the man one was, that all ones dearest ambitions and hopes must be forever fore-gone and replaced by the picture of a life of chronic invalidism. Real adaptation, however, calls for this philosophical outlook, and any other form of reaction must be regarded as regressive. We may regard this class as having made a compromise, preventing complete regression by obsessive preoccupation with their situation, and so long as the regression tendency is thus satisfied, detention in a hospital where constant attention, freedom from responsibility, and the presence of other similarly afflicted are to be found is usually instrumental in bringing about an adjustment. But this improvement is rare.

Paranoid Type. This is the smallest of the four groups, but the fact that 10% of patients belong to it, showes that the type is by no means uncommon, at least, among certified cases. All of this type are suitable for mental hospitals, and practically all of them sooner or later are placed in them.

Hallucination and definite delusions are considered to be extremely rare and in the absence of signs of Parkinsonism, it is extremely difficult to distinguish this type from ordinary cases of paraphrenia and dementia praecox. Cases with indefinite histories of acute attack of encephalitis and with no neurological signs, in which it is almost impossible to arrive at a definite diagnosis, the relative infrequency of delusions of persecution in encephalitis psychosis is really rather surprising in view of the peculiar temperament of these patients. Their constant preoccupation with their illness and symptoms should make a fertile ground for such delusions, especially of the type sometimes described as hyperchondriacal paranoid.

The most common symptoms are ideas of reference, pseudo-reminiscences, and hallucinations of all the senses, but especially of hearing, delusions, chiefly persecutory but sometimes pleasantly ereatic, unusually antipsychic but also somatopsychic. The content of the delusion is often palpably dependent on the physical symptoms. The usual paranoid interpretation of events is seen and the affective state is congruous with the delusions. The unsystematized delusions often vary from day to day and when inactive are discussed by the patient with schizophrenic indifference. The content of the delusions point to a much greater degree of regression, than in the former group and may be frankly sexual. Emotional determination is evidenced by impulsive and apparently motiveless outbursts of violence and by incongruity between the affective state, and the conduct of the patient. In short, the mental picture is indistinguishable from that found in many schizophrenics.

The Apache Type. The term Apache has been used almost invariably in the description of the psychoses of chronic epidemic encephalitis which chief characteristics are delinquency and bad conduct, and therefore the Apache syndrome is here meant to include all behavior irregularities, from mischievousness to serious crime. It is seldom found in patients who have passed adolescence at the time of their primary attack. On the other hand, Apache symptoms may continue, as far as we know, indefinitely. The condition appears to depend partly on a heightened irritability and diminished power of control and partly on a lack of reasoned judgment and self-criticism. Children of irreproachable families, hitherto of exemplary behavior and character may in a very short period become guilty of every delinquency from naughtiness to cruelty and murder, and from mild bad habits to gross indecencies. One male Parkinsonian, 40 years of age, who was considered well enough to be returned home, exposed himself indecently in front of his children and had to be returned to hospital. Motor restlessness seems to be responsible for the numerous cases of "wandering" in these cases. Vice and habits are common, varying from simple movements and grimaces to complicated performances. Peculiar anomalies of gait are seen, such as flexing the knee at every step, constantly changing step and revolving around. Some patients will throw themselves on their backs with their legs vertical.

Conclusions

In persons without psychotic inheritance, but with pre-existing septic diseased states in the head (which may date from childhood and may be responsible for some predisposition to mental disorder) an attack of influenza, by causing an acute exacerbation of the pre-existing pathological process, may precipitate serious mental disturbance even although constitutional symptoms in influenza may be slight or absent. The pre-existing pathological process may be responsible directly or indirectly for pathological changes elsewhere in the body, and from these collectively further general toxaemia may ensue; when these secondary processes have subsided the original focus in the head does not necessarily return to the status obtaining before the acute exacerbation as some of the mental symptoms displayed during the acme of the acute process may.

The mental symptoms and the corresponding pathological conditions of septic foci with deficient or defective drainage, may continue indefinitely, being subject to periods of exacerbation and quiescence. The usual influenzal symptoms displayed by a normal or otherwise relatively healthy person, may show considerable differences from those occurring in persons with an existing chronic septic process in the head. Within the skull, therefore, pathological processes may exist, the extent of which may determine the degree of mental symptoms displayed.

DISCUSSION

W. A. Jenkins, Louisville: Mr. President and Members of the Kentucky State Medical Association: I have enjoyed very much this excellent and timely discussion of an always interesting topic.

I desire to say at the outset there is quite a difference between simple sporadic influenza and epidemic influenza. Simple sporadic influenza, which every one of us treat a few cases during the winter and fall is, generally speaking, although it has possibilities, a relatively easily managed affair. Its description, its symptomatology and its treatment is detailed in practically every textbook, and every physician befoie me is perfectly familiar with the same. I shall exclude them from my remarks.

I shall confine my remarks to a few practical observations on the type of condition which is known as the malignant or epidemic influenza, such as we had, for instance during the World War.

I very well remember those early days in September, 1918, when the first cases began to come down with influenza. I was one of the consultation officers at that time in one of the largest military camps in the United States. I have never been more interested, and perhaps more saddened, nor busier both night and day since I have been practicing, than I was during that fall and early part of the winter.

I think we learned several things during that outbreak. In the first place, I don't believe we are absolutely definite concerning the etiology of this type of condition which comes on us and overwhelms us in these epidemic waves. It is true that the influenza bacillus is found present in practically all cases that come to postmortem, and in the sputum and so forth of those who are affected, but it is, generally speaking, associated with a large number of more virulent microorganisms. As a general rule, our observations in holding exceedingly large numbers of postmortems in the military camps was that it was perhaps the existence and symbiotic relationship of the hemolytic streptococcus that was perhaps more responsible for this dreadful clinical picture than any other organism, although the various types of pneumococci and other organisms were very frequently found present.

The first thing that impressed us in the epidemic or malignant type of influenza, was the almost hopeless condition, apparently, of the managing physician. In a large number of cases we seemed to get such little response to treatment. The patient was so suddenly overwhelmed, became so quickly toxic, had lowered function of kidney, damage to the liver cells, and filling of the finer capillaries of the lungs with exudate and debris producing an oxygen lack and inability to eliminate carbonic acid.

These cases that gave us our trouble were those where the individuals became quickly cyanosed, delirious, had rapid breathing, strength gone, heart failing, and death sometimes within 48 hours from the time they entered the hospital on their feet.

Concerning treatment, I don't feel that we have any specifics. I don't believe for this disease any type of vaccine or sera is valuable or even shoud be used. I believe the treatment is entirely symptomatic and supportive. The earlier the supportive measure is begun the better your results will be. Meet the indications as they arise according to the condition of the patient, and the experience and knowledge of the attending physician.

Those were our chief measures, and we gave them in the base hospital. We gave them the most nutritious substances at frequent intervals that it would be possible to get into them, substances that would be easily handled, easy to take up and assimilate, would furnish very little debris and not work any hardship on any of the large vegetate of organs of the abdomen or chest.

If there was any one thing we did learn—and I think it was chiefly the army men who first brought that out—in these cases of malignant influenza where the heart goes to pieces quickly and where pneumonia comes on apace, it was to use digitalis early and in large doses in order to get our effects. It is a mistake, gentlemen—and it used to be taught not to shoot until you get where the game is—to reserve your digitalis for your heart until the heart has begun to show distinctly that it needs assistance. Gentlemen, in the type of cases I am referring to, this is a mistake. It takes a considerable period of time for you to get the full influence of digitalis even though you give the best obtainable preparation and you give it subcutaneously.

At the very earliest sign of a pneumonia, or if the toxemia, the temperature and the action of the heart indicated, we were in the habit of administering digitalis. We would begin it even before there was actual evidence of pneumonia, and we would keep it up until we got a digitalized effect. It is easy enough, and you have done very little harm. If you find you haven't had as great need of digitalis as you expected, reduce it or cut it out altogether.

We used other supportive measures, of course: caffein, sodium benzoate, strychnin and, occasionally, just for an emergency, a few drops of adrenalin subcutaneously.

We have, of course, as has been indicated by the other papers, all sorts of complications, and they should be watched for. Empyema is the greatest enemy in the camps and in civilization, and is often the last thing thought of in the life of the patient but is frequently really the cause of the death of the patient.

I was selected to go around the different wards and pick out the suspected or supposed cases of empyema. I think we distinctly learned one thing, and I am glad Dr. Allen agreed with me on that in his paper. If you are dealing with an empyema, the whole question of treatment and its efficacy may be summed up by saying that it is drainage. If you have pus confined anywhere in the body, the problem is to get it out; therefore, drainage. But there is a question, as he has very distinctly indicated, as to when and how and the type of drainage you should do.

It was our custom in all the great army camps at first, as soon as we detected a very small empyema this patient was transferred to the surgical ward and some type of operative procedure, primary or secondary, was instituted at once. It didn't take us long to realize that we were adding to our difficulties rather than otherwise, and it soon became the custom, as Dr. Allen has indicated, in the desperately ill cases, even though we detected a collection of pus at the base of either one or the other of the lungs in the pleura, that unless said collection of pus was embarrassing respiration, producing some mechanical effect, interfering with the motion of the heart and keeping the individual from getting in oxygen and getting out carbonic acid, nothing was done to it during that very, very serious, critical illness of the patient. The idea would be to tide them over if symptoms of said embarrassment arose. Then the best thing to do would be to aspirate, and aspirate just such an amount as would temporarily relieve these symptoms from time to time or day to day until we could patch up the constitution and resistance, and build our patient up to the point where he seemed to be approaching recovery, seemed to be getting hold of himself again, showing some evidence of being on the up grade. Then the appropriate procedure could be initiated.

I think we should always be on the lookout for pus in the pleura, or empyema, in influenza, particularly influenzas that drag along. Where there is an interval and the patient seems to get well of his influenza, and then the temperature shoots up and he has a chill, anybody would know that in about ninety-seven cases out of a hundred he had a collection of pus. In some of these other cases, it isn't so easy.

We always depended in diagnosing empyema chiefly at first upon a thorough physical examination, upon the physical signs, and if in any doubt in any way have x-rays made, such as Dr.

Enfield has illustrated to us here very beautifully their value. Then lastly, but by no means least, the use of the needle. In other words, we always verified the physical findings by the use of the x-ray and the use of the needle. We only withdrew fluid in the most toxic state where the individual was in grave danger with a failing heart, cyanosis, lack of oxygen, acidosis, and so on. We only removed just enough fluid to relieve the excess embarrassment in respiration and circulation, and aimed to build the patient up. (Applause).

Austin Bell, Hopkinsville: Gentlemen, it was not my intention at this time to enter into a discussion of the splendid symposium which has been presented to us. I asked to be left off the program, and stated as my reason that I would not be here today, but for some reason they have seen fit to call on me, and after hearing these splendid papers I certainly will have to say a word.

Those of us who have practiced medicine for a number of years, and have passed through one or more epidemics of influenza, realize fully the seriousness of the disease which confronts us when we are once in the midst of such an epidemic. Therefore, it behooves each of us in every case of sickness to examine our patient carefully and look closely into the symptoms presented and determine whether it is of serious moment. In other words, it is far better to take it for granted that these isolated cases that we have, that resemble influenza, may be the beginning of a serious epidemic and treat those cases accordingly, rather than to feel because we have not had influenza in our midst it possibly is a milder disease, a cold or something of a less serious nature.

In every case we recognize the seriousness of the disease for the infant and for the aged, not on account of the disease itself as has been so splendidly stated by those who have delivered their papers today, but the seriousness of the complications that are so frequent.

In the very beginning of a case of this type, I feel our patient should be put to bed and kept there continuously until several days after the temperature has been normal. That patient shoud be put in the care of a well trained nurse that every thing may be done to add to the vitality and to increase the resistance against the disease. If there is one single remedy which offers relief for more symptoms than any other, I think it is acetyl-salicylic acid, and I believe it is more in general use today than any other remedy for this disease.

We have no other specifics. We realize that, and yet this does meet the indications in the treatment of nearly all of our symptoms of a serious nature. Then we should add to our treatment any drugs that may seemingly be indicated for the symptoms that arise in that particular case.

One of the essayists today made the statement that we did not hear the diagnosis of influenza often. In my section it is the diagnosis we hear most often. I recall a statement made by a practitioner in our county years ago during the first epidemic of influenza. He said he didn't understand why in the world he was permitted to practice medicine for forty years not knowing what to call those cases he was unable to diagnose. About the time he was ready to retire from practice, influenza came and the doctors diagnosed everything as influenza. That is true largely at this season of the year with many doctors, I think.

Osler has said that pneumonia is a disease of the aged and infirm. We all recognize the fact that the final death knell which comes to the aged is most frequently from pneumonia. Hence, in every case of cold or uncertain disease in the aged or infirm, we are to think carefully and watch closely for the development of pneumonia, realizing the seriousness and the fatalities that come with this class of disease. (Applause).

Rowan Morrison, Louisville: This is a most interesting discussion, and I am sorry that I didn't hear some of the papers.

I don't know of any disease of modern times that seems to have more influence on our patients than what we call influenza. I quite agree with Dr. Jenkins that we have mild attacks of influenza, and we have severe, malignant types of influenza. Just how to differentiate an influenza from the common cold, with or without influenza, is a very difficult thing to do, to my mind. I don't know exactly how to do it. Playing safe, I would rather err on the right side and put my patients to bed, whether they are coming down with influenza or a common cold, keep them warm and well nourished until they show distinct signs of marked improvement.

Dr. Cecil of this city, who was a wonderful medical man with keen observation, used to teach us that the Irishman said influenza was a funny disease because you were sick for six weeks after you were well. My patients now say that that is very good, but that it is usually six months before you are well. It plays the deuce with you. You don't know what it does do to you until after you have gotten through with it.

Cases of heart disease that are pretty well adjusted and doing very well, have one of these simple colds or influenzal types, and after that there is all the difference in the world. We have a hard time keeping them going, while before that we had a fairly easy time keeping them going.

As to the use of vaccines, I did not hear what they said. I am rather inclined, from my own experience, to believe that the prophylactic use of vaccine against influenza is of very little importance. I am subject to error, as all of us are, but my own personal experience has been along that line. I have given it to people, at the advice of good bacteriologists who didn't believe in it, one year, and the patient got along fine. The next year I started it before the influenza started in, and they were sicker than they had ever been before. They said they thought the influenza vaccines made them sick. It is still a moot question with me. I give it when people demand it.

As to what Dr. Jenkins said concerning Dr. Allen's paper on empyema, I thoroughly agree that sometimes these people are too sick to operate on in the first stage. We had better give them a chance, by aspiration, to let them get well enough to take the pus out.

I have not heard what the men said about whisky. I am certainly of the same opinion as Dr. Bell of Boston. Whereas I don't think whisky is a stimulant or a tonic, it still is a euphoriac. If you think you are going to die with something, and you can be put into a state of well being so that you don't think you are going to die, you have a lot of good done to you. If we need food and nourishment, and we can't get food and nourisment unless we have this stage of euphoria, I believe it is a good remedy in moderation.

I teach my students now, gentlemen, that a lot of delirium I used to see in typhoid fever and in pneumonia was drunkenness, because our whole idea was to give whisky until you could smell it on the breath. If you take four or five drinks of whisky a day I defy you to smell it on anybody's breath. (Applause).

Leon L. Solomon, Louisville: Recalling the words of the Secretary, a few days ago, when invitation to attend these sessions was extended to the students of the University of Louisville, it is to be regretted that a larger number, then present, are not here today to derive benefit from the papers and the discussions in this symposium.

Epidemic influenza is always a subject of interest. The profession sometimes waits a decade, sometimes several decades, before an epidemic, in all of its fury, is seen, as it became pandemic in 1918-19. In the winter of '94-95, Louisville suffered a fearful epidemic, resembling that of 1918-19.

Ouchterlony, Marvin, Cecil, Stucky, Kelly and other teachers of clinical medicine in Louisville, in those days, classified types of the disease, commonly met with. These types were seen in '94-95 and again observed in 1918-19. I call them now to memory in the order of their frequency and importance:

(1) The muscular variety, a mild type as a rule, involving groups of muscles, sometimes the entire muscular system, in severe pain.

(2) A so-called muscular variety, a mild type as a rule, in which pain of varying degree is experienced in certain nerve tracts. Both the muscular and the neuritic variety are rarely associated with high temperature or prostration.

(3) The so-called respiratory type, known as the bronchial variety of influenza, involves mucous membrane of the upper respiratory tract and the mucous lining of the bronchial passages. This variety is, as a rule, more severe than either of the preceding types. Not infrequently associated with pneumonia and pleurisy, and not infrequently complicated by empyema, it becomes more serious in its aspect as these complications occur. Prostration is usually marked. Mortality runs high.

(4) Gastro-intestinal variety, with symptoms, varying from mild to severe, involving the digestive system.

(5) The so-called fulminating type in which there is hyperpyrexia, with pronounced prostration, muttering or wild delirium, and not infrequently death within a few days.

Interne at the Louisville City Hospital in 1894, I recall the ravages of the epidemic and our utter helplessness in combating the disease. Clint Kelley, for whose ability I always had a profound regard, presented several such seriously sick patients from the medical wards at the afternoon clinics in the old hospital amphitheater. I remember his words: "Boys, this man was admitted a few hours ago. His temperature is now 104, his respiration 36, his pulse 120. He has been in a low muttering delirium. He will probably join the silent majority tonight or tomorrow. We are unable to discover a pneumonia; he is the subject of what we term the fulminating type of influenza."

A moment ago, I said I had a high regard for the ability of Dr. Kelly. May I say, I loved the man dearly (applause), not only because of his many acts of kindness to the student body as a whole, but I loved him because of the mantle of protection, which it was his habit to throw around the young practitioner, whom he quietly and sweetly corrected. I recall when I was treating a case for typhoid and brought in Dr. Kelly as consultant, he showed me the error of my way, carefully avoiding telling the family so that I might remain, to my satisfaction, and to my ultimate glory, when a final recovery was achieved. I say there was no finer clinician than Clint Kelly and no more noble practitioner.

I repeat, Mr. President, it is a pity that a large number of medical students are not here today; the profession has come to mistakenly call every mild case of grippe and mild catarrhal condition, involving the respiratory or the gastro-intestinal tract, an influenza, the student of medicine not gettting a proper grasp of the meaning of real influenza.

Dr. George Hendon, on duty at the City Hospital in the medical wards during a part of the epidemic, planning his life in medicine which has since been marked by so distinguished a service, lost thirteen patients, as I now recall, in the male and female white and colored wards, in one night. Going on duty the following morning to succeed my friend, Hendon, I signed fifteen death certificates during the twenty-four hours.

Concerning treatment, just one word with reference to alcohol: I wholly agree with Dr. Morrison. I regard good whisky as the best remedy we have. (Applause).

E. J. Brown, Stanford: Mr. Chairman and Members of the State Medical Association: It was in the year 1891 that I was a student in this city and we had a very severe epidemic of influenza.

I remember Dr. E. R. Palmer, who was one of our teachers at that time, gave us in broad terms one great treatment for the symptoms of the ordinary case of influenza. I am not speaking now of its complications. Dr. Palmer's prescription was this: So many grains of salol, so many grains of phenacetin, so many grains of salicylic acid, and we found, in all the epidemics that followed in years to come in a mild as well as in the malignant type in the uncomplicated cases, that it was a splendid treatment.

We all went through the epidemics of 1918 and 1919 together. We saw our strong, robust patients in the morning. We saw them moribund. We saw them when they couldn't eliminate the carbonic acid of which Dr. Jenkins spoke. We saw them cyanosed. We saw edema of the lungs. We saw them vanish under our eyes, and we were absolutely helpless, and of course we all suffered through those epidemics together. We worked together, and perhaps digitalis did more to save those who were saved of that type, those very, very few that were saved, than any other one remedy.

In conclusion I want to say this: We speak of the complications of influenza, empyema, ear disease, sinus infections and all of those different complications, but there is one, gentlemen, that if you studied in going through these epidemics, should never be forgotten and should be impressed upon the patient, more especially in the milder types of influenza, and that is this: If sinus and thorax complications had its hundreds and thousands of victims, the heart and the myocardium had its millions, and every patient should be studied and should be put at rest. You say your muscles tire on exercising them after influenza. If your muscles tire by exercise, what will happen to the heart that has to go on, that has never rested a minute since the day you were born? It is going to be left impaired. It may not be organically impaired so that you can put your hand on it and say this or that is left as the remains of infection, but it is impaired in this way: Let the patient over-exercise after that, or let some other illness befall that individual, then will show up exactly about what I am speaking, an impaired myocardium. Therefore, there is no influenza, no matter how mild, in which the heart muscles should not be given consideration and taken care of for the future. (Applause).

O. O. Miller, Louisville: Mr. President and Members of the State Association: The outcome in any disease are three: The individual either recovers or dies or he doesn't entirely recover. It is about those cases that do not entirely recover that I wish to speak for a few moments.

In the history as given ordinarily by patients the term influenza is used as a blanket diagnosis. Many patients say they have had influenza when they have really had lagrippe.

The absence of symptoms is no criteria that your patient has entirely recovered. I find many of these patients have what I call a post-influenza pneumonitis. That is; after the apparent recovery of the individual, the subsidence of fever and the almost entire clearing up of cough and expectoration, many of these individuals have posttussal rales at the base of the lung, particularly below the inferior angle of the scapula. This inflammatory condition persists for an indefinite period, and it is from these individuals that we recruit ten or fifteen years later cases of bronchiectasis.

I do not believe that the epidemic form of influenza is a factor in the evolution of phthisis.

I do find however, that with these sporadic attackes of influenza many patients are coming to the clinic giving a history of so-called influenza which has produced the breakdown in their condition and the development of a pulmonary tuberculosis. Not infrequently the characteristic catarrhal onset in tuberculosis is mistaken for lagrippe.

I would therefore stress that the physician examine his patients specifically for a residual pneumonitis and follow them for a more or less indefinite period to ensure himself of their complete recovery.

I was glad to hear Dr. Brown speak of the cardiac complication. I believe it is a well-known fact that six per cent of all your cases of influenza develop some cardiac complication.

A. A. Whhittemore, Bowman, N. D.: First, I want to extend greetings from the physicians of North Dakota to the physicians of Kentucky. This meeting is unexpected. I came down to visit the State Health Department.

I haven't anything to say in particular on influenza. I am a health officer primarily, but I believe if your patient goes to bed immediately at the first indication of having influenza and stays there until it is all over, you won't have many of these complications, and you won't have many of the deaths you are talking about.

A. T. McCormack, Louisville: One of the most serious things that happened during the pandemic of 1918 and during the epidemic this year and others we have had, has been the vague alarm that has possessed our people and which has produced more or less of a fear psychosis in regard to this disease serious enough without any artificial agitant.

In England they are calmer and more philosophic than we are. They take a little more time to think, while we possibly act a little sooner and sometimes make a few more errors.

When the pandemic started there in 1918, the history of influenza and similar infections was announced extending over a period of some hundreds of years. The people were instructed not to have any fear, any anxiety about the thing.

In this country on the contrary, I think every bacteriologist—although they had been voiceless over a considerable period of time—proceeded to say they knew nothing about the disease, and demonstrated it by an interview of a column or two in the newspapers to show that nobody knew anything about it.

I think that was a mistake. At the beginning, in Kentucky, we developed a working hypothesis that was very valuable to us, and valuable to our people, to employ amongst ourselves at the various meetings that were held at that time under father's chairmanship; that is, that the infection of influenza was a mixed infection and possibly came from the Pfieffer bacillus. Be that as it may, influenza came from some infection, some active germ. In the simple cases, influenza was probably what you were treating in the majority of instances and Dr. Mayo's statement last night of Dr. Rosenow's more recent researches in focal infections bore out that hypothesis. During this epidemic the ordinary germ inhabitants of our system became mobilized and militant and virulent in a way that they are not ordinarily because of the depression of the body resistance, and we had a mixed infection supervened on the acute infection of influenza which made the serious complications.

When Dr. Rosenow devised his vaccine, it was a vaccine made of a considerable number of families of germs which were found in the locality in which the particular epidemic was raging. Since that time, in our own laboratory, we have continued from time to time to get cultures from autopsies, from serious acute infections, and to keep our material active and effective by that method.

Our experience down at the State Board of Health is typical of that of many others reported. We have done this experiment over at the Herald Post because it was a particularly interesting one. Here was a large group of people confined in an over heated room. They had to go out and expose themselves at lunch and on their way to and from their work. They were particularly apt to have this type of infection, and we accepted the responsibility for inoculating the group down there twice last year, and expect to continue it over a term of years and keep very accurate control of cases. A number of them have been selected who are not given the vaccine, and the effect will be shown.

In our work at the State Board of Health, we have had a very interesting experience with it. During the five years preceding our regular biannual inoculation we have had an average of nine days lost a year in our own family down there from the influenzal and bad cold infections. For five years the inoculation has been taken twice a year by everybody in the office but five, and those five have had more of these infections and have missed more days' work following them than all of the other sixty-four people in the office. A number of them, among them our most valued and one of our most beloved employees, Miss Sullivan, for many years had these repeated infections.

Dr. Mayo expressed to us so impressively last night the story of the life cycle of these recurrent infections, these habitual bad colds that we are seeing. There is a residual family among these ever present germs that from time to time becomes active in that particular system. This inoculation we use seems to be effective because it comes from the families of germs in our own locality, and seems to be effective in that way.

We had an interesting experience in 1918 at the remarkable institute for the feebleminded, presided over by Dr. John Stewart, where all of his patients were inoculated. In Dr. Stewart's private sanitorium there was not a death, while at the state institution a few miles away where none of them were inoculated, the death rate was considerably higher.

When Dr. Rosenow first devised this serum, whatever it is, Dr. South sent me several bottles of it, enough to inoculate one battalion of soldiers coming to Camp Taylor from Camp Alexandria in Louisiana. (One of three battalions in the regiment moved up there.) During the height of the epidemic in this particular battalion it did not decrease the number of cases very much. However, there were about half as many cases in this battalion as there were in either of the other two battalions at Camp Alexandria, but there were no deaths in this battalion while in the others there were in one, sixty-three, and in the other, one hundred twenty-eight.

It may be just good fortune that the people who get this inoculation do not have the disease, but at any rate it offers better protection. We have better luck, some way or other, than the people who do not use it. For that reason we have no hesitancy in recommending its use to the physicians. When the State Board of Health recommends anything to physicians, it is merely giving you the best of our experience. We expect you to be the final judges in the treatment of your cases about everything. I have never felt that any health board, or any individual could put himself on any rostrum and tell any doctor how to treat the patient for whom he is responsible. Each of us gives to the other our experience and the man who is treating the case is the final judge in regard to it.

There is just one other thing I should like to say.

In regard to the prophylaxis of influenza or any other disease, from a very considerable experience and a large study, I am perfectly convinced that whisky never prevented anything in the world at all, at any time except happiness, health and good fortune, nor has it done any good for us, and, that the man who prescribes whisky with the view to preventing any disease is making a mistake. I am perfectly convinced of that, and I feel our profession has gone on record in the matter. I feel that the profession ought to say categorically and definitely to the public, as we said repeadly over the radio during the recent epidemic, and will say just as long as breath is left in any of our bodies, that whisky is not a preventive of any disease and should only be used under the instruction of the physician responsible for the case and who has made a careful examination of the patient in that particular case of illness.

The patient who comes to a doctor's office and asks for a prescription for whisky and is given it without scientific justification is given it in direct violation of the duty which we owe to the public under the law. The laws of this country give us the only authority to dispense whisky legally in this country, and we have no right whatsoever to do it for social purposes. We have no right to write a prescription for ourselves. We have no right to give it to anybody unless we have made such a careful examination of that person's physicial body and concluded from his requirements that we feel that this is the medicine indicated for his benefit, and we are giving it to him for medicinal purposes only. (Applause).

J. T. Reddick, Paducah: I don't want to prolong this discussion, but I did want to say a few things and express my appreciation to Dr. Shelton, my neighbor, and these other gentlemen who have given us such splendid papers this morning on influenza.

We have three types of influenza: the respiratory, the intestinal and the neurotic, or that invading the central nervous system.

It has been my privilege to pass through two violent, serious epidemics or pandemics of influenza: the pandemic of 1889, and 1890 and 1918. I remember, and a good many of the elderly physicians of this audience will remember, I am sure, an epidemic which was no doubt the same disease about fifteen years prior to the 1889 epidemic. It was called epizootic. Some of you doubtless will remember it.

In the epidemic of 1918 some five or six of our Paducah physicians had gone to war and the excessive work fell on a few of us. From about October 5 to about December 15, when it seemed to terminate abruptly, I worked day and night. I didn't refuse anyone so far as I was physically able to go. I want to say that the poor were the ones in which the mortality was greatest. They lived in unsanitary conditions, they were hard to handle because they would not respond to the advice of the physician. I would frequently find them huddled in a room with a hot stove and no ventilation. I would open the door myself, and finally sometimes I would threaten to quit the case if they didn't follow my directions.

I have found that ventilation, as was mentioned by Dr. Shelton, is an important point in the treatment of these cases. I noticed that my patients who had rooms on the second floor did better. There were fewer complications than in those who were huddled in hovels on the first floor of residences. (Applause).

W. J. Shelton, Mayfield: In my paper, I mentioned all of the types of influenza that were brought out in the discussion. Perhaps I didn't call them by the same name as those who discussed them.

As to the use of vaccines and serums in influenza, I do not think that they have anything to do with the prevention of the disease. They may prevent secondary infection. I have noticed in those cases where I have used vaccines that the patients do not develop complications, as often as they do in those cases where I did not use them.

I stated I thought alcohol was good treatment for influenza. Certainly, no one would think of giving alcohol in any form to prevent disease. I would not think of doing such a thing; I do not recommend it for that purpose. I do not agree with Dr. Solomon that it is the best remedy as a treatment for influenza. I do think it is useful in selected cases. There is no doubt that it does prevent wasting of the tissues. That has been demonstrated. Certainly there could be nothing more desirable in the treatment of influenza than to conserve the vital forces of your patient.

I do not see any reason why we should use digitalis as a routine treatment. I do think it is useful and should always be used in those cases where there is any cardiac irregularity or any indication of the heart giving away to the burden that is put upon it. In those patients mentioned by Dr. Jenkins, where we have cyanosis and difficult breathing, I do think that digitalis is the chief remedy, but I don't see the necessity of its use in simple influenza.

I feel sure in those cases where we have cyanosis that comes on so suddenly within twenty-four or thirty-six hours after the patient gets sick that we have a congestion of the lungs or a bronchopneumonia, and not a simple influenza.

I feel we should always digitalize that type of patient, and I look upon it as being one of our chief remedies.

As I stated in my paper, the chief aim of the physician should be to prevent complications, and the best way to do this is to put your patient to bed the first opportunity you have, and keep him there until the symptoms have completely subsided. By doing that and giving him the proper nourishment, and the proper ventilation, I think we can often avoid difficult complications.

I wished to speak of the demonstration of Dr. Enfield, I think it is very helpful in clearing up our diagnosis in those complications where physical signs are obscure or lacking.

J. W. Nolan, Harlan, (in closing): I wouldn't care to add anything to what I said this morning except the fact that I have been requested to mention an indication for the puncture of the ear drum, or rather the time when this operation should be performed.

Ordinarily without going into detail, as soon as we detect any marked bulging of the drum, puncture by the posterior classical incision is strongly indicated. It is very easy to determine the bulging of the drum if you know the normal landmarks, the short process and those areas which reflect light. When these are fairly well absent, you have considerable bulging and with that bulging, of course, pain. The bulging is produced by the secretion, what it may be, pus or other material, behind the drum, and it is brought about by this pressure.

As I stated in the paper, when this condition of bulging is present, if you want to prevent those possible complications in the mastoid, acute mastoiditis, and those other graver complications which might occur in the inter-cranium, by all means do the posterior incision. If not the posterior incision, do the paracentesis. Of course, we prefer the posterior incision. (Applause).

Muscular Dystrophy Following Encephalitis.—Schilder and Weissmann report the cases of two young men, aged 25 and 19, respectively, who several years previously had had encephalitis. One of them complained that lately he had noticed a sensation of fatigue in the right arm. Examination revealed hypertrophy of the shoulder girdle, particularly of the right deltoid muscle. The other patient complained of frequent headaches. His walk was difficult and waddling. However, when he ran the disturbance was less noticeable. The left quadriceps showed marked enlargement, and the right deltoid muscle was larger than the left. The behavior of both patients indicated minor psychic abnormalities. The authors assume that in these cases the trophic nerve centers that are located in the thalamencephalon had been affected by the encephalitis.

THE USE OF SKIN GRAFTS IN PLASTIC SURGERY*

By Francis M. Massie, M. D., Lexington Clinic, Lexington.

Before we undertake a consideration of the principles of successful grafting of skin, it may be well to emphasize some points which impress themselves very forcibly on the surgeon who undertakes this line of work.

No work of this sort should be begun until it is made very clear to the patient or responsible member of the family that it may take many months and many operations before the best result is finally obtained. I know of no disappointment keener than that of having the parents take a child home before the work is completed. Time must never be considered either in the management of any course of treatment or in any single operation. The surgeon who specializes in this field soon learns that he cannot afford to be critical of the work of another which comes under his observation. The chances are that the patient left before the work was finished and that the surgeon who started it is quite as dissatisfied as the one to whom the patient later comes for help. It is necessary to keep constantly in mind a picture of the end result and to visualize the steps necessary to attain it. If the surgeon lacks this sort of imagination he had best not undertake this type of work.

These patients are usually poor and often come from the ranks of the uneducated, so that the surgeon must put himself out to explain to them as simply and wisely as he knows how what they must expect, so that they will stay with him until the end. He knows that his reward in most instances is the satisfaction of having fitted for the world of work an individual previously unfitted by dysfunction or disfigurement.

The principles on which successful skin grafting rests are simple, but must be followed with painstaking care, for in no field of surgery is carelessness and haphazard work more certainly followed by unsatisfactory results, and surely in no field are poor results more apparent to the patient or to those who see him.

For many years Davis[1] has classified skin grafts as true grafts, which are always raised completely and placed without connection to their natural site on the area to be covered. Those pieces of skin which are still attached, though temporarily, by some part of their periphery are called pedunculated flaps. The true grafts may be thin grafts of which there are two types—the small or Reverdin and the large Ollier-Thiersch graft; or thick grafts

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*Read before the Kentucky State Medical Association at Louisville, October 21-24, 1929.

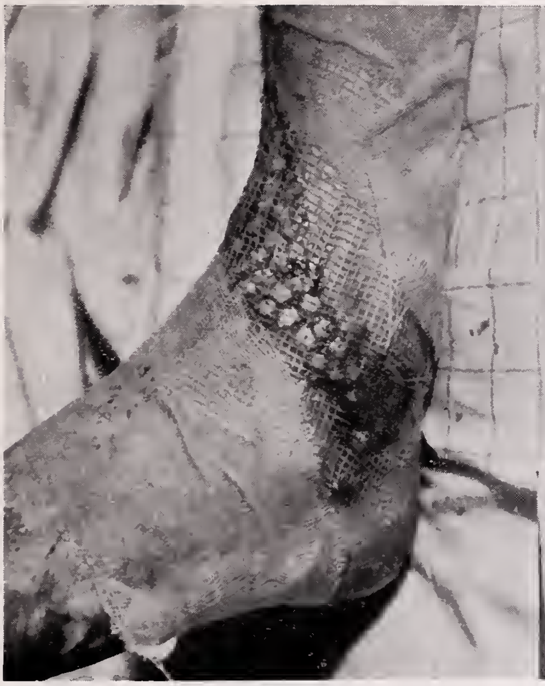

FIGURE 1

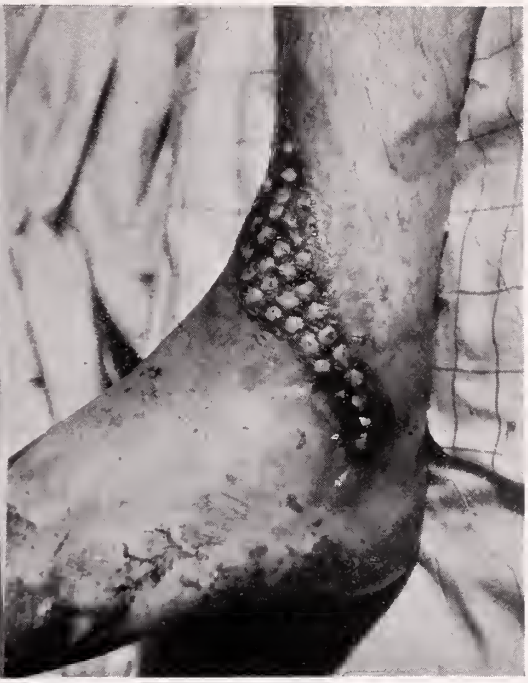

FIGURE 2

which may be the small Davis graft or the large Wolfe-Kranse graft. The latter is familiarly known as the whole thickness free graft. There are several kinds of pedunculated flaps; the "tube," where one or both ends are left attached; the "pocket," where the pedicle is as wide, or nearly so, as the flaps; the "jump" tube, where one end is transplanted and grows fast, then the other end is cut free and transplanted, the ends are thus moved alternately so that the graft may be moved for a considerable distance; the "delayed" flap is made by raising the skin and immediately replacing it in its bed; this is done one or more times before it is swung to its new location; the "sliding" flap is moved without tubing to a raw area immediately adjacent. In the following discussion these classifications will be used.

The Reverdin graft "small thin" sometimes inaccurately called the "pinch" graft, is cut with a sharp blade parallel with the surface removing the point of a cone of skin which has been pulled upward on a needle point—this is a very small thin graft—we do not consider it as useful as the Davis small deep graft and have had only a very little experience with it.

The Ollier-Thiersch, or the large thin graft, is usually cut from the thigh, forearm, or abdomen with a very sharp amputation knife or better a razor blade held firmly in a hemostat. The skin is cleaned with alcohol and ether, greased with sterile vaseline, and held taut and smooth. The graft is cut very thin with a sawing motion. When properly cut the raw area shows many fine bleeding points on a white field, showing that the top of the papillae have been cut. This graft is most useful for large granulating or infected surfaces. Strips are cut 1 inch wide or 1½ inches wide and 3 to 6 inches long and laid smoothly on the granulating surface with edges overlapping. They are then covered with a warm pliable paraffine mesh gauze and a pressure dressing applied, using a sea sponge for pressure. The area is dressed in 48 hours, great care being taken not to disturb the paraffine gauze. Most workers do not dress these grafts as frequently as we think is necessary. It is our custom to dress them daily after 48 hours, and open blebs which have formed. Frequently Dakin's compresses are used. The granulating surface is prepared by treating it with Dakin's compresses, but using a dry pressure dressing for 24 hours before the grafts are placed. Recently we have found useful a dressing of ½% zinc sulphate solution for two days before grafting as suggested a short while ago by Rulison[2]. We agree with Davis that the appearance of the granulating wound is a better guide than bacterial counts as to when the field is ready for grafting.

The Ollier-Thiersch graft is followed by a considerable amount of contraction and fixation and hence cannot be used well over joints or for grafts on the hand. It has found its greatest usefulness in our hands in covering defects caused by lifting pedunculated flaps.

The Davis "small graft" is cut by raising a cone of skin on a needle point but the cutting edge is first turned toward, then parallel to, then away from the surface, thus scooping out a small area of skin very thin on the edges

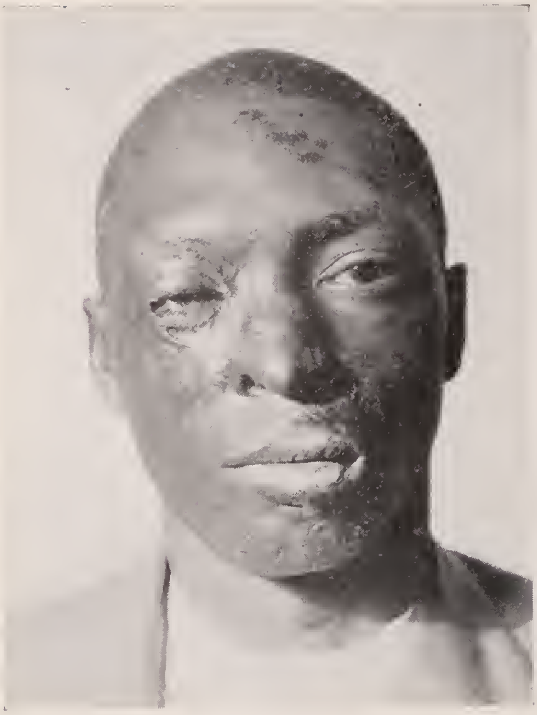

FIGURE 3

grading to full thickness at the center. The resultant graft is .4 to .5 cm. in diameter. It should be pressed down firmly on the granulating surface so that its thin edges are not curled under. These grafts are placed not more than .5 cms. apart. They are cut very close to each other and the resultant defect covered with vaseline gauze and not dressed for 10 days. The grafted area is treated as described for Ollier-Thiersch grafts except that Dakin's compresses are used routinely after 48 hours. We have never found that this inhibits the growth of epithelium. Fig. 1 shows an area on the left leg and ankle following an extensive injury treated with these grafts. The Dakin's compresses are applied on top of the paraffin gauze and kept moist every two hours during the day. Fig. 2 shows that a thin layer of epithelium has grown out from each graft until all of the raw area has been covered. The wound is now ready for open air treatment on the 10th day after grafting.

Koch[3] has recently shown to what an extent free full thickness grafts may be used in plastic work on the hands. Blair, Davis and Wolfe have been pioneers in working out the technique for the successful transplantation of large whole thickness grafts. The indications for their use and the precautions necessary for success with this type of graft are now well standardized, but in spite of this the greatest percentage of failures occurs with these grafts. They are well adapted for new areas where mobility of the part is necessary as in covering defects of hand or fingers. The following rules must be rigidly observed if free whole thickness grafts are to take—the area which they are to cover must be surgically clean; this cannot be true of granulating, dirty, or accidental wounds. All of the scar tissue must be removed; the edges of the area to be covered must be undermined and all scar tissue trimmed away; the area must be dry. The graft is marked out by a piece of muslin or lead foil cut to fit exactly the

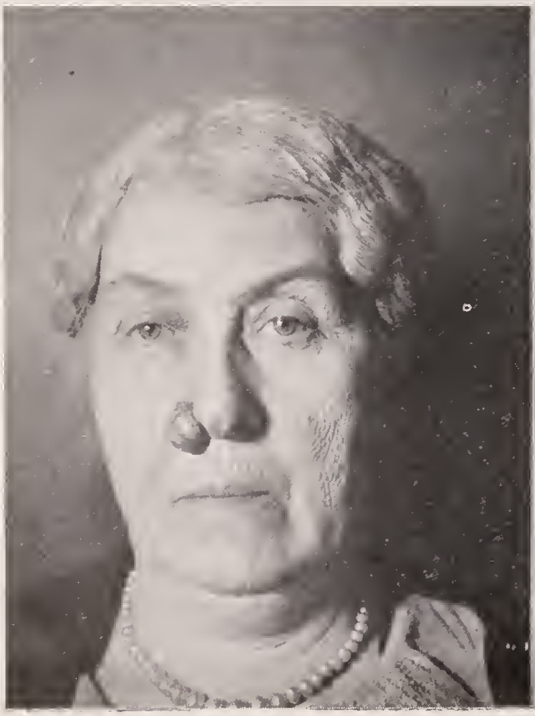

FIGURE 4

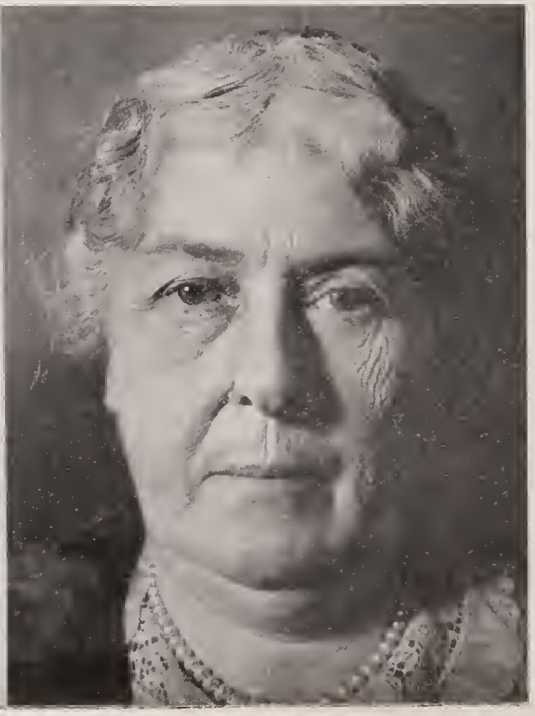

FIGURE 5

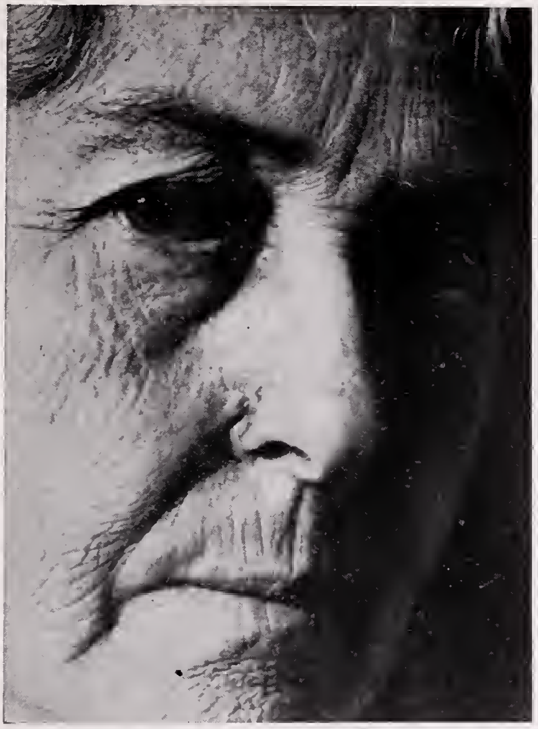

FIGURE 6

raw area to be covered. This is important because the tension after transplanting should be the same as in its original bed. The graft is outlined and then cut while held under considerable tension by the operator, while the assistant holds the subcutaneous tissue under tension in the opposite direction. In this way all of the subcutaneous tissue can be removed at the time the graft is raised. We think this is better than trimming away the fat with scissors afterward. It is immediately applied to the raw area and sutured in place with accurate and painstaking approximation. Multiple stab wounds are then made in it for release of serum and exudate and a sea sponge pressure dressing applied. The whole grafted area is immobilized as well as possible by plaster if practicable, and the dressing not changed for 10 days or 3 weeks.

Blair has called attention to the fact that these grafts should not be attempted if there is an area of infection anywhere in the body, however superficial. Our many defeats with this type of graft we are sure has been due to our inexperience, and our failure to observe one or more of the above important points. It has made us a bit timid and forced us too often to the safer but longer method of the pedunculated flap, which is frequently not so satisfactory as the free graft.

We have used a smaller free thickness graft a number of times for plastic work on the face. The graft is cut and fastened raw surface outward around a mold of soft sterile dental compound previously made to fit the area to be covered. The edges of this area are undermined and drawn up as far as possible around the sides of the graft-covered model. In this way the model holds the graft in accurate apposition with the raw area. Fig. 3, shows the results of this method when

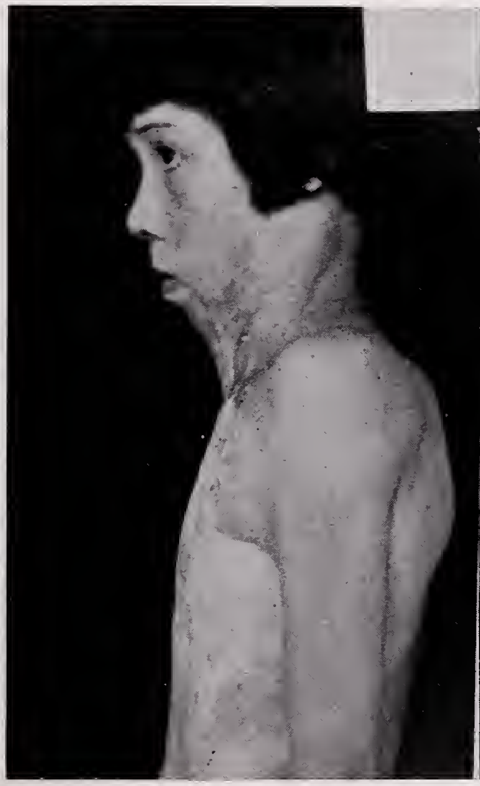

FIGURE 7

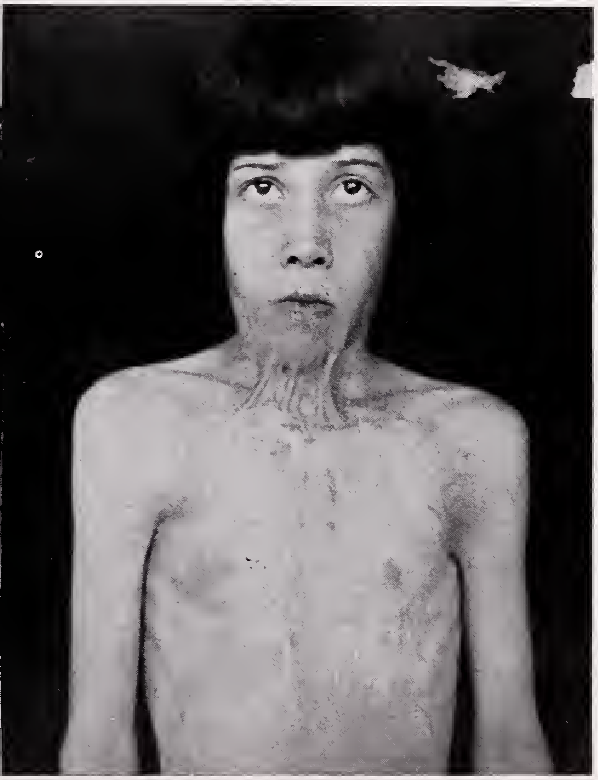

FIGURE 8

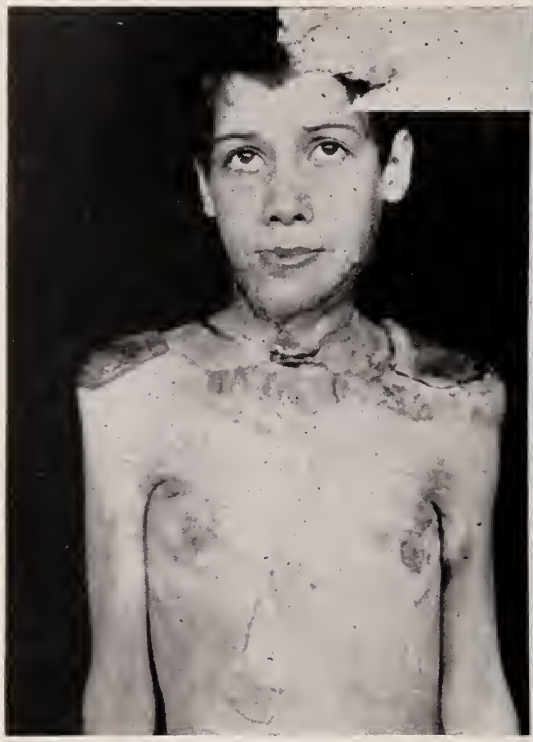

FIGURE 9

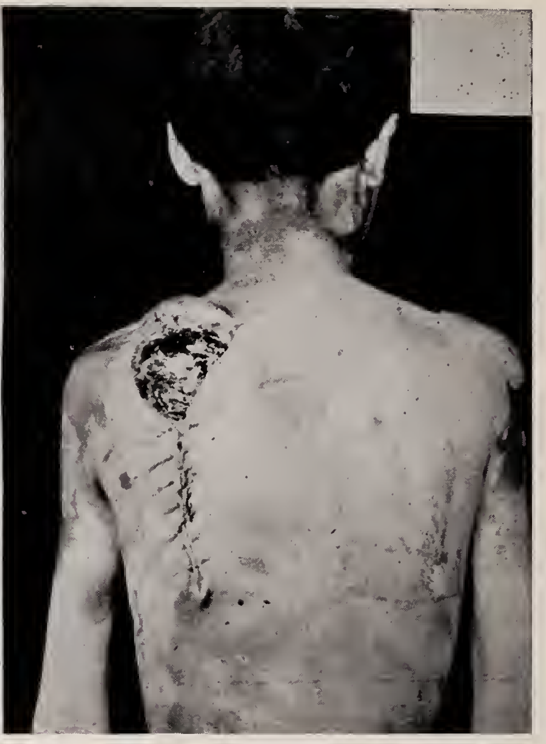

FIGURE 10

applied to a double ectropion due to burns. This patient is back in the hospital for further work as the ectropion has recurred partly. It is important in restoration of the eyelids to start work immediately in spite of the danger of infection, in order to forestall loss of vision due to ulcer which may occur from lack of protection of the cornea. It is interesting in this instance that both grafts had marked superficial desquamation with complete loss of pigment, but the pigmentation returned in about 4 months.

Figs. 4, 5 and 6 show the results of the same method applied to the nose. Here a basal cell carcinoma down to but not invading the cartilage was removed and the resultant area filled with a graft, which has left less scar than would have been possible if the growth had been removed by radiation.

Blair[4] has observed that pedunculated flaps around the head and neck are more likely to fail in women and children than in men and emphasizes the importance of the delayed flap. We realized the truth of this in dealing with the patient in Figs. 7-11 inclusive. We lost several flaps and two free grafts before we finally succeeded by a long tube "jump" flap from the back. Scar tissue on the anterior chest wall prevented us from using what is ordinarily the most available area. Blair and others have often noted that we must take great care when cutting pedunculated flaps that a blood supply known to be adequate is present in the pedicle. Sheehan has said that this is not nearly so important as we had thought, that tube flaps may be cut in any direction, and the blood supply will be sufficient. He says that failure is more often due to too much blood in the flap for the partly interrupted venous return, and that properly applied pressure on the flap will control this. After one end of the flap has grown fast in its new location the pedicle is cut down, usually beginning the 10th-15th day following transplantation and

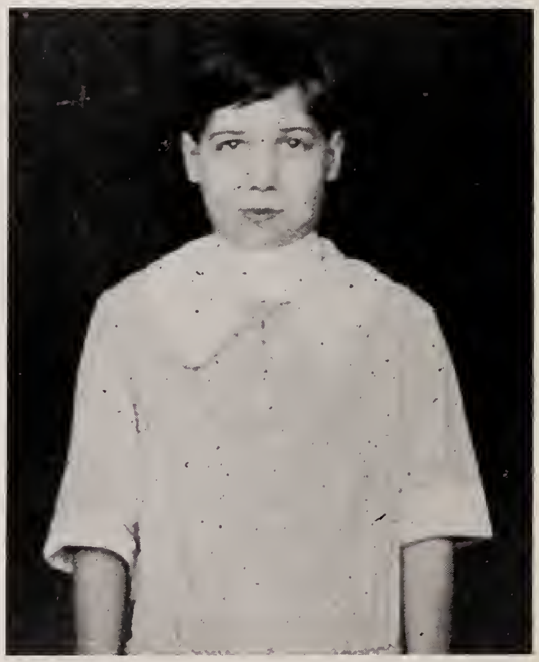

FIGURE 11

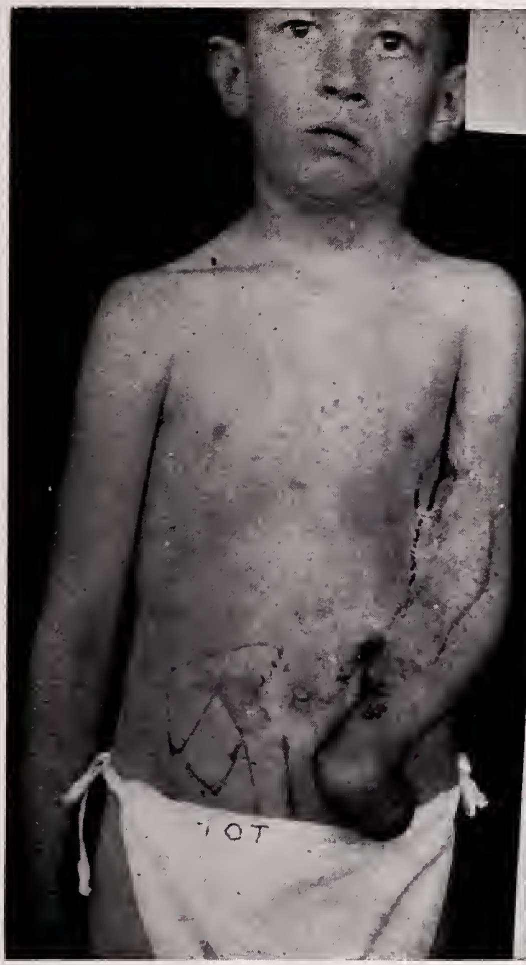

FIGURE 12

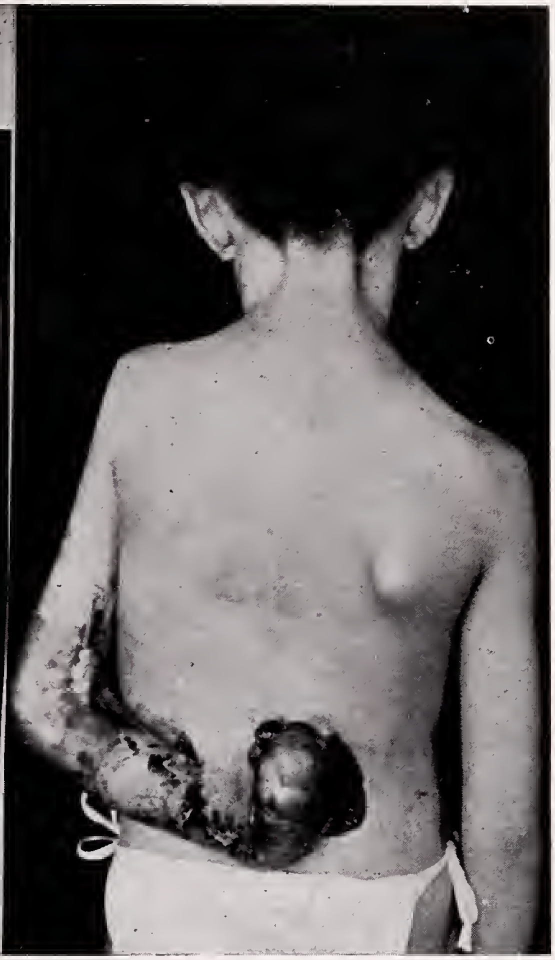

FIGURE 13

concluded in several stages at 2 to 6 day intervals until complete.

Figs. 12-16 show some of the stages and the end result in a boy with a crippling chicken wing scar of the arm and forearm and a hand bound up in scar tissue so that it resembled a closed fist dipped in plaster; the thumb was indistinguishable in the scar. The scar holding the forearm in 90° flexion was first excised and replaced by a long pocket or hinge flap from the chest and abdomen. This was cut down very gradually. The scar holding the wrist in acute flexion was similarly treated and release of the hand was attempted last. It was not found possible to separate the fingers so thick and binding was the scar tissue between them, but the thumb was separated and covered with free grafts; the palm and flexor surface of the mitten was covered with free whole thickness grafts, giving the boy a useful thumb and mit. Results like this are not possible without the help of a trained orthopedic nurse. This patient and several others have been referred to me by Dr. W. M. Brown, Chief Surgeon to the Shriners' Orthopedic Hospital in Lexington, Kentucky. In every instance Dr. Brown has put at my disposal his equipment and trained personnel.

In repairing defects of the cheeks, nose or mouth it is important that the inner surfaces shall be covered with epithelium, otherwise scar tissue will contract so as to occlude the orifice or limit motion as in opening the mouth. This may be done by covering the raw surface of a pedunculated flap with an Ollier-Thiersch graft or by filling the defect with a pedunculated flap whose skin surface is turned in leaving the raw surface outward which is covered at the same sitting by a second pedunculated flap from another adjacent area. This was done for the patient illustrated in Figs. 17-22.

Pedunculated flaps are chiefly used in covering large defects over important structures where motion or cosmetic effect is important, where the subcutaneous tissue and fat of the flap is desirable. It is, of course, the safest and the most resistant to infection of all grafts because it carries its own blood supply which is not interrupted until another supply is established.

We have learned from our brief experience in the use of skin grafts that:

The individual should have a clear understanding of his condition and the probable

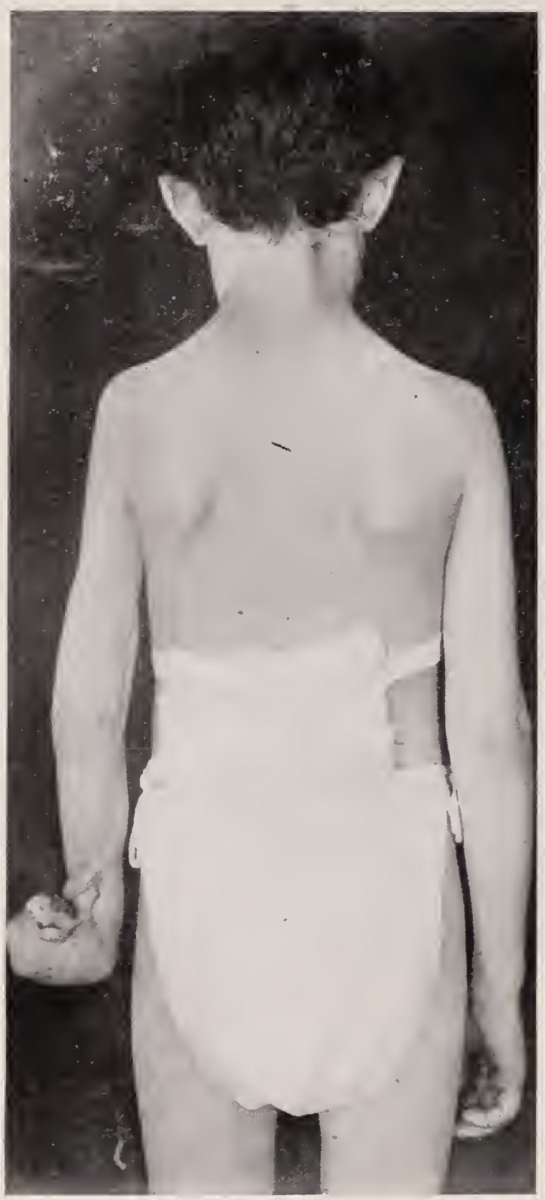

FIGURE 14

outlook.

The choice of type of graft depends on the nature and location of the area to be covered.

That painstaking care and frequent dressings are essential for success.

That many failures, especially at the outset, harass and discourage the surgeon.

That asepsis, hemostasis, and pressure, removal of all scar, and immobilization are essential in successful free grafts.

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DISCUSSION

Fred Koontz, Louisville: Mr. President,Ladies and Gentlemen: I know of no more tedious or difficult procedure in surgery than the technic of skin grafting. There seems to be a general impression among the laity, and I fear among a great many practitioners, that skin grafting is just skin grafting and that all you have to do is put on a surface and let it grow. They don't take into consideration the history of every case nor the sequence of events that bring failures. Just why that is the general idea, I am unable to expain fully.

I suspect there has been a good deal of newspaper notoriety as to the results of plastic surgery in the late war, that has not been exactly true to the type and true to facts. In fact, I think perhaps some of the pictures that have been shown at various times, have been just a little bit exaggerated, if not a little bit dishonest, in that many of the pictures have the negative retouched before the picture is shown. I am so thoroughly convinced of that fact that I have no hesitancy in mentioning it publicly. The same question has been brought up and commented on by other men who have done plastic work.

It is so difficult to get the ideal result, that the man who understands it cannot afford to be anything else but frankly, coldly, brutally honest with the patient on whom he is going to operate. I was very pleased to note, in looking over the manuscript of Dr. Massie, that he pointed that out, the very first in his paper.

A skin grafting operation may be successful or may be a failure due to the simplest little slip or error in technic. You may do a beautiful operation, and at the very end, in the last minute of time, place a stitch and tie it too tightly, or overlook a stitch at a point, or some other minor details, which will bring about a result very unsatisfactory.

To my mind, there seem to be three phases to successful cases of skin grafting: first, a suit-

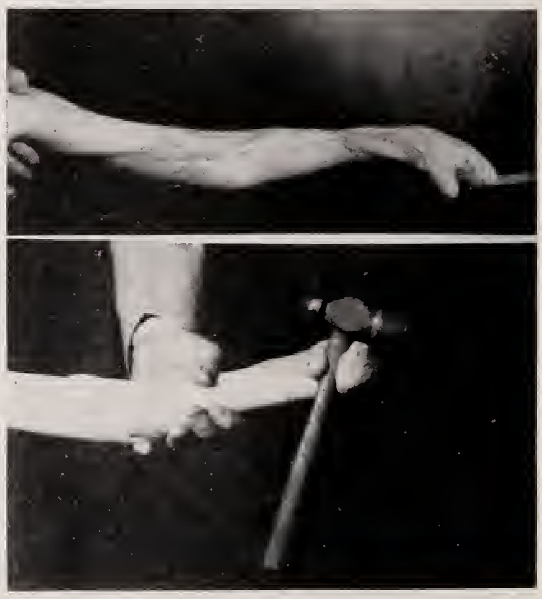

FIGURE 15

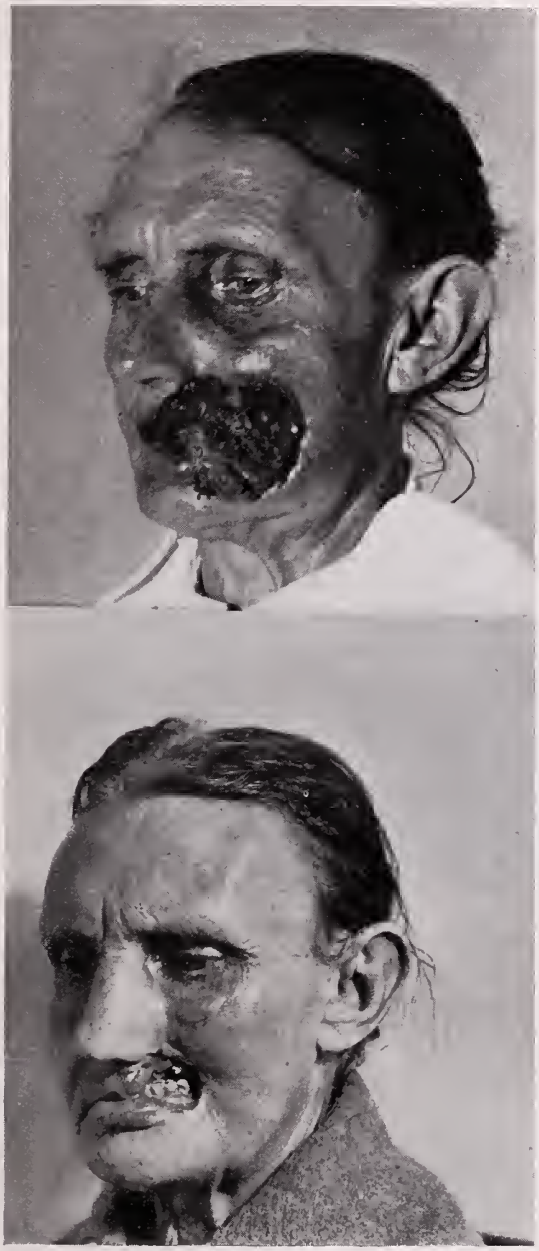

FIGURE 16, 17

able field; second, a proper graft; third, an adequate technic in supplying that graft to the surface. (One more minute).

Then I will cover this point of equal pressure because, without which, there is no success. And it is very important that when the field is suited and the graft is well selected it must be placed with the proper amount of pressure.

It has been shown that 50 millimeters of mercury pressure will inhibit the growth of graft. Seventy millimeters of mercury will starve that graft, and from 60 to 100 or 110 will produce death and gangrene of your flap.

It has been proven further that 30 millimeters of mercury is better, the principle being that you should have pressure sufficient to compress the venules completely and partially compress the arterioles which gets the maximum outflow of lymph upon which you must depend for the life of that graft. So it has been shown by experi-

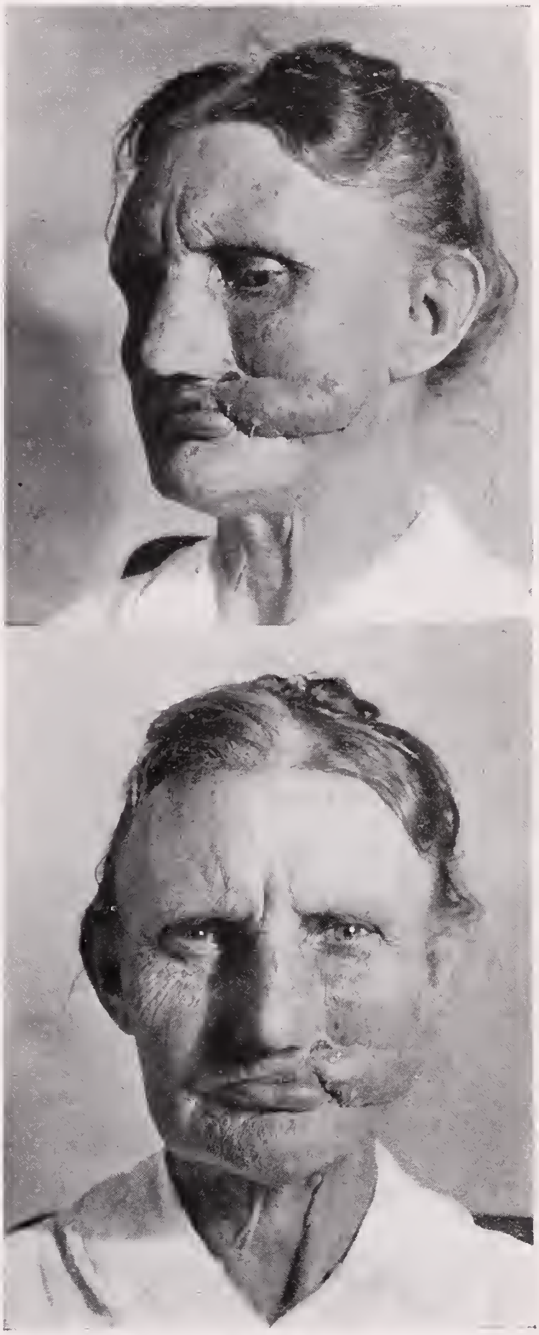

FIGURE 18, 19

ment that 30 millimeters of mercury is the ideal pressure equitably placed over the field. That can very readily be done by the use of a bag attached to your blood pressure apparatus. You can even use your arm band where suitable on extremities and small surfaces and maintain that pressure all the way through. (Applause).

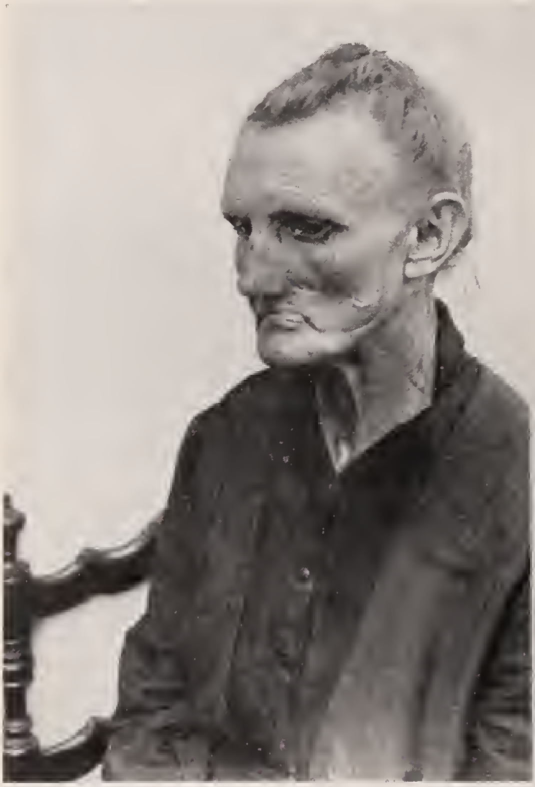

FIGURE 20

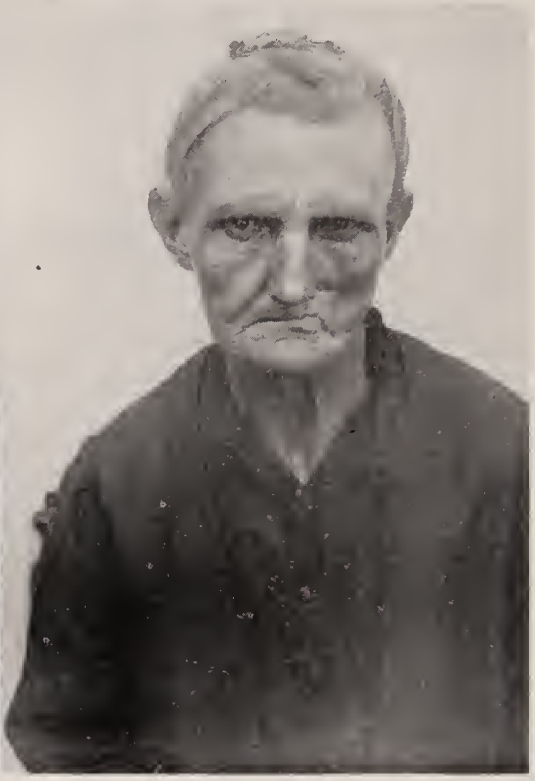

FIGURE 21

MALTA FEVER*

By William A. Jenkins, M. D., Louisville.

Synonym:: Undulant fever, Rock of Gibraltar fever, Neapolitan fever, Cyprus fever; Danubian fever; later in the United States of America, it was known as Goat fever, Slow fever and Rio Grande fever.

Definition: A specific, continued type of fever, characterized clinically by undulations or relapses, chills, peculiar sweats, muscle and joint pains, cough and bronchial irritation, and anatomically by enlargement and softening of the spleen, congestion of the liver, congestive bronchitis, engorgement of the lymphatics with abdominal distention.

History and geographical distribution: As is usually the case some of our medical authors trace this disease back to the time of Hippocrates. The authenticity of this statement is doubtful. We are certain however, that this disease is an old one. It was perhaps confused with the typhoid group of fevers. It was supposed to have been epidemic during the Crimean War, at which time it was present in epidemic form at the same time with typhoid fever. At first this fever was prevalent around the shores of the Mediterranean Sea and in the islands dotting the surface of the Mediterranean. The Island of Malta just south of Sicily, gave this fever its name. Many severe epidemics occurred on this island. It was here that the disease was first carefully studied and its cause discovered by the painstaking and brilliant work of Bruce, an English Army surgeon. Next the fever invaded the countries of continental Europe and then Asia, cases having been reported in India and Hongkong. This fever has perhaps existed in the southwestern portion of the United States of America for many years. It was called "Slow fever," "Goat fever" and "Rio Grande fever." At the present time there is hardly a state in the Union in which its presence has not been reported, and in some of the states it has occurred in epidemic form. For example, quite an epidemic of Malta fever occurred in Arizona in 1922. The state of Iowa has had considerable trouble with the disease, and likewise many other places. In Kentucky we have had quite a sprinkling of sporadic cases, in addition to one or two small epidemic outbreaks.

Etiology: The micro-organism which causes Malta fever was discovered by Bruce, an English Army surgeon, in 1887. The organism was a coccus and he named it micrococcus melitensis. Bruce found the micro-organism always present in the fluids and tissues of the affected individual (obtaining the living organism in one instance, at least, by splenic puncture in the living febrile subject). He grew the organism in culture media, generation after generation, continuing his cultures in some instances over a month. Finally he injected pure cultures into monkeys and produced the disease in its typical forms, thus carrying out the classical laws of Koch and proving definitely that the organism was the true cause of Malta fever. Since the time that Bruce announced his discovery some confusion has arisen regarding the identity of the organism. Some observers, who at first noted the coccoid form of the organism, later on decided that they were dealing with a bacillus. (Hiss and Zinsser). Bang in 1897 described the causative agent in contagious abortion of cattle. To him the organisms found in infected tissues appeared to be coccoid in shape; after isolation and culture he decided that he was dealing with a bacillus and suggested the name bacillus abortus. Thus the battle went on among the bacteriologists and laboratory workers, until in 1918 Miss Alice Evans showed that from the standpoint of morphology, biochemistry and cultural characteristics these organisms were indistinguishable and that they were very closely related serologically. We now know definitely that the human, porcine and bovine types all belong to the same species. The so-called different types are but variants or varieties of the same species and they are all capable of producing the disease in man. A re-classification was proposed by Meyer in 1920, for purposes of uniformity and clearness, viz., Brucella mellitensis as the comprehensive term for the whole group, with subdivisions as follows: the type which Bruce described is now called Brucella mellitensis (variety mellitensis), and the abortive type became known as Brucella mellitensis (variety abortus), which in turn has two subdivisions (a) the bovine type, and (b) the porcine type. The above is the classification agreed upon at the present time.

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*Read before the Jefferson County Medical Society.

Modes of transmission: First, it must be admitted, as a possibility, that the organism can enter the human system by way of the air passages. (It has been found that the organism can live a month in water and seventy or eighty days in dust). This method of communication must be very rare. Second, the inoculation method of entrance through the unbroken skin or through abrasions of the skin. Many cases do undoubtedly occur in this way, as butchers, hide handlers, etc., contract this disease in handling cattle and hogs. It is also a well-known fact that laboratory workers in this and other countries have contracted this fever. In such instances as the above mentioned the organisms entered the system through the unbroken or broken skin, or they were transferred by contaminated fingers to the food of the given individual. Infection undoubtedly occurs by both routes. Third, by way of the gastro-intestinal tract. Contaminated food, more particularly milk, is by all odds the commonest mode of entry for this organism In this respect it is exactly analogous to the mode of entry in the case of the typhoid organism. The milk of the goat was found to be the chief carrier in Malta and also in the epidemic which occurred in the southwestern portion of the United States. Cow's milk is undoubtedly the carrier in the largest percentage of the cases that have occurred in the United States of America. The organism is found quite generally in the fluids and tissues of the infected animal, and consequently anyone handling the carcasses of infected animals are open to possible infection. The organism is given off from the body almost entirely through the urine and milk. The organism leaves the body by way of the gastro-intestinal tract only to a very slight extent or not at all.

Pathology: The pathologic changes found in the tissues and fluids of an infected subject will depend in great measure upon the severity of the disease, and this in turn of course depends upon the virulence and quantity of the organisms introduced, and to a lesser extent upon the resistance of the individual. The virulence of the organism is the chief factor, just as it is in the case of any infectious disease. Take influenza, for example. Sporadic cases of influenza, such as we have almost every year, is one thing; and the "Flu" that we had during the World War was quite another thing. So it is with undulant fever. The majority of the cases which we have had in this country, while fairly prolonged in some instances, were on the whole not very severe. The mortality is very low. The pathology therefore in mild cases is necessarily not very marked nor very widely distributed. On the other hand, in the malignant forms, such as some of the epidemics in which Bruce worked and has left a description of same for us, the reverse is true. Bruce describes malignant cases with a high continuous fever, a desperately ill patient and death in ten days or less. On quite a number of these cases Bruce held post mortem examinations while the body was still warm, five or ten minutes after death. It is quite possible for almost any organ or tissue of the body to become involved in this disease, depending upon the severity of the case. Some authors report serious involvement of the central nervous system, even meningitis. Others report ulcerations of the intestinal tract, although Bruce states that he did not find ulceration of the intestinal tract in any of his cases which came to autopsy.

I shall confine myself to a brief description of the commoner pathological findings as described by Bruce, which findings will perhaps best fit the average case. The spleen is the most commonly and markedly involved organ. This organ is uniformly large and congested. The malphigian bodies are infiltrated with a round type of lympoid cell. The sinuses are distended with blood. The characteristic organisms are always found in this organ. (Bruce obtained them by puncture of the spleen in the living subject and produced a typical case of fever by injecting the material into monkeys). The liver is the next commonest organ to show pathological changes. This organ is congested and its cells are in a state of cloudy swelling. A round cell infiltration is present in the interlobular spaces. The bronchial mucous membrane is usually congested. There is often congestion about the bases of the lungs, patchy areas of involvement in the lungs which closely resemble or actually constitute, a bronchial pneumonia. The kidneys are at times congested, infiltrated and even hemorrhagic, truly a glomerulo-nephritis. The lymphatic system is commonly engorged. The gastro-intestinal tract may show slight infiltration and cloudy swelling. Bruce, as I said above, states that he never encountered intestinal ulceration, although two or three such cases have been reported in this country. The blood almost uniformly shows a secondary anemia, the leukocyte count is usually below the normal. Particularly is this noted if counts are made all through the case. It will usually be noted that the polymorphonuclears tend to decrease and the lymphocytes tend to increase. Blood cultures are often times positive for the causative organism, and in the great majority of all true cases the agglutination test is positive and almost conclusive.

Symptomatology: The incubative interval of this disease is anywhere from six to twenty or more days. Bruce cites instances of soldiers coming direct from England and entering Malta for the first time, some of whom took down with the fever in six days. In other instances it would be perhaps as long as twenty days. The symptoms will of course depend upon the type. Bruce reports cases beginning with grave symptoms, temperature ranging as high as 101° or 105° F., temperature continuing high with death of the patient in ten or twelve days. (Malignant type). Other cases would run along for thirty days, or in some instances for two or three months, with many relapses or undulations in the fever curve. I shall give a brief resume of the commoner symptoms as found in the average case. As a rule there is a prodromal period with malaise, tired feeling, headache, a no-account, run-down feeling loss of appetite, slight cough, etc., to be very closely followed by weakness, fever sweats, chill or chilliness, muscular pains, aching of the joints, cough and possibly some distention of the abdomen, enlargement of the spleen and likely also of the liver. The fever is of course the most characteristic symptom. In the great majority of cases, (excepting the malignant types), the fever is of the undulating or relapsing type. Fever for a few days, then a drop to or near the normal for a few days, then up again, and so on, throughout the clinical course of the disease. The above behavior of the temperature curve is so characteristic that it has furnished the disease with one of its names. The fever process occasionally manifests other irregularities, e. g., the temperature may be normal or nearly so in the morning and 102° or 103° F. in the afternoon. (Now and then it may reverse this process). In the malignant type the fever is usually continuously high, as in the cases cited from Bruce's writings. The sweats are quite characteristic and usually profuse. The above are the commoner symptoms manifested by the average case. As I noted under the heading of pathology, almost any organ or system of the body may be invaded, and when invaded said organs or systems will manifest symptoms proportionate to the degree of the involvement.

Varieties or types: Because of such wide variations in the behavior of this fever under different circumstances and in different countries and epidemics, many different types are found mentioned in the available literature, e. g., 1. A pernicious or malignant type. 2. An undulant type, (the common form). 3. A type with continued fever. 4. An ambulant, irregular or walking type, etc.

Complications and sequelae: Under this heading would come pyrexia, pneumonia and pleurisy as the more likely happenings. Involvements of the nervous system occasionally occur, such as a neuritis, or a meningeal involvement. Some observers in the United States of America have reported intestinal involvement with ulceration and hemorrhage. Bruce with his wide experience states that he never observed a case with intestinal ulceration. Clinically he noted abdominal distention and in his post mortem work, he found cellular infiltration and cloudy swelling along the intestinal tract.

Diagnosis and differential diagnosis: In the presence of a proven epidemic the diagnosis of the new fever cases in the locality is easy. Where cases occur sporadically, however, the diagnosis is beset with many difficulties. To make a positive diagnosis of Malta fever we must have typical clinical symptoms including the characteristic fever curve, plus a well-marked positive agglutination test, or a positive blood culture. A well equipped, properly manned laboratory is of the greatest assistance in making a diagnosis; in fact, a positive agglutination is oftentimes the deciding factor in the diagnosis. The clinical symptoms in isolated cases may be suspicious, but a positive agglutination test, carefully and properly made, clinches the diagnosis In the locality in which the writer lives, in the course of the last two or three years, a doctor here and there would have a peculiar case of "Fever." He would perhaps send a specimen of blood to a good laboratory for the typhoid agglutination test, and the laboratory man would also make the agglutination test for Malta fever at the same time, often finding it positive and so reporting to the doctor. As a result of this co-operation and interchange of experiences many physicians when encountering an irregular fever in the last few years always have the Malta fever agglutination test made. The degree of agglutination titer which should be accepted as positive has been a matter of some controversy, perhaps nothing below 1 to 80 should be accepted as positive. Some writers say 1 to 160. More or less typical clinical symptoms plus a positive agglutination reaction is all that is necessary for a positive diagnosis. It should be noted, however, that agglutination tests are persistently absent throughout the case in a small per cent of proven cases. It should also be remembered that occasionally there is a cross agglutination of the Malta fever organism and the tularemia organism. If in doubt, both tests should be made. In such instances the relatively higher titer, the history of the case and the clinical symptoms will usually clarify the matter. A skin test was developed in Europe; filtrates and a suspension of the killed organisms were used intra-dermally. The killed suspensions were usually capable of producing a reaction in known cases. Both filtrates were found to be unsuitable and not to be depended upon as diagnostic agents. A positive blood culture would of course furnish additional evidence. This latter procedure requires special care and skill, and frequently blood cultures are not positive in proven cases. The differential diagnosis is often quite difficult, typhoid fever, tularemia, tuberculosis, malaria, bacterial endocarditis, pyelitis, septic disease with a hidden focus and many other conditions, which produce a protracted type of fever, are confusing. However, with the assistance of a good laboratory, plus clinical experience and good judgment, we are able to arrive at a positive diagnosis in a great majority of cases.

Prognosis: In this country, up to the present writing at least, the mortality of this disease has been low. The prognosis has been good. According to statistics the death rate has never been over about 2 to 5%.

Prophylaxis: This disease is already a problem and it may become a menace to us in the future. A man in moderate circumstances with a family to support takes down with Malta fever; he may be sick thirty days or several months. This means for him financial disaster, hardship and great economic loss. It was this phase of the question that induced me to bring this subject before you upon this occasion. Prophylaxis, preventive medicine, is the slogan of the age. It is a worthy goal. Preventive medicine is the most comprehensive and valuable phase of scientific medicine today. The United States Government, public health work, State Boards of Health, and individual doctors all over the country are constantly and unitedly working to stamp out disease, to prevent disease. What can we do? What should we do to prevent Malta fever? First, as milk used as a food is the chief carrier in this country, (with us it is chiefly cow's milk), we should begin with the milk supply. We should use agglutination tests on all dairy cattle and this should include the bulls, for obvious reasons. Infected cattle should be excluded from the herd until cured. It has been proven that this organism is destroyed by being exposed to a temperature of 142° F. for fifteen minutes. Therefore, pasteurization would be an efficient safeguard and should be instituted when necessary. This measure would perhaps be best in the long run under any circumstances. (If the great majority of milk consumers could see the methods used and the environment surrounding the production of uncertified milk in vogue with the small retail dealer who keeps anywhere from one to four cows, as a side issue to a truck or vegetable farm on the edge of or adjacent to the average large city, they would never drink milk again as long as they lived). Second, physicians everywhere should be on the lookout for this disease and in all suspicious cases have an agglutination test made. The disease should be made a reportable one and every attempt should be made by the Health authorities to trace the source of the disease. Third, due care and precautionary measures should be taken by all butchers and packing house employees in handling beef cattle and hogs. Such measures as the above mentioned would prevent, or at least tend to hold in check, epidemics of Malta fever.

Treatment: All of the methods of treatment that have been in vogue at various times and in various countries for the management of this fever may be classified under three headings, viz:

1. Symptomatic treatment;
2. Chemotherapy;
3. Foreign proteins, sera, vaccines and other anti-bacterial agencies.

1. Symptomatic treatment. Such measures, of course, were depended upon entirely in the earlier history of this disorder, and we might add in passing that they still hold an important place in our therapeutic considerations, just as they do in any other disease.

2. Chemotherapy. Substances like mercurochrome and acriflavine have been used by quite a number of observers. Some thought these measures useful, others held a contrary opinion. On the whole, we may safely conclude that chemotherapy is not a satisfactory form of treatment.

3. Treatment by the use of foreign proteins, sera, vaccines and other anti-bacterial agencies. We might briefly summarize by saying that foreign proteins of various sorts have been tried and found wanting. Likewise to date no serum has been found that merits serious consideration. The treatment of this fever by vaccines has the spotlight at the present time. Vaccines prepared from multiple strains are being used quite considerably at the present time. The writer has seen the use of vaccines apparently break up the fever, in three cases, at least. While this whole matter is still "sub judice," we can at least say that the vaccine treatment looks promising. The future alone will tell.

DISCUSSION

C. H. Harris: About the first we heard of Malta fever in Louisville was early in the summer of 1928. At that time we issued an order that all cows in dairies furnishing milk to Louisville should be examined for indications of this disease. At the same time we conferred with all the veterinary surgeons in regard to contagious abortions in herds supplying milk for the city of Louisville. I was very much surprised to hear from a representative of the U. S. Government and the State Board of Health, in discussing the subject from both an etiological and prophylactic standpoint, that the consensus of opinion at that time was that the bull was the dangerous factor in the propagation of this disease, that the organism tended to centralize itself in the cow and in some mysterious way was transmitted to the milk which acted as a culture medium, then the organisms reaching the intestinal tract produced this peculiar type of fever.

The first case of Malta fever reported to the city health department was July 13th, 1929. The patient was a white female, aged 18 years. The first symptom made its appearance about July 10th. The diagnosis by the agglutination test, was made by Dr. J. D. Allen within three days, and the case was reported July 13th. The patient recovered.

The second case was reported July 19th, 1929, by Dr. R. A. Bate. The patient was a male, white, aged 29 years. In this case there was less delay in diagnosis. Only one day elapsed between discovery of the case and diagnosis by the agglutination test.

The third case was reported August 30th, 1929, the patient being a white girl aged 13 years. The first symptoms developed about August 25th. In this case there was a delay of five days between onset of the disease and diagnosis by the agglutination test.

The fourth case was reported September 24th, 1929. The patient was a white female, aged 22 years. In this case there was a lapse of about two weeks between the appearance of symptoms and diagnosis by the agglutination test.

As a matter of course in any disease that is transmissible through the milk supply, all physicians and health officials should be constantly on the lookout for the control of such cases. Under the ordinances of the city of Louisville we have two grades of raw milk. The first is produced by one dairy under supervision of the milk commission of the Jefferson County Medical Society known as certified milk. This conforms to all the requirements. The second is a uniform grade of milk which must not carry a bacterial count of more than 50,000 to the cubic centimeter.

I believe the time is coming when all milk will have to be pasturized. We know that careful pasturization will kill all harmful bacteria. I have become a little "hard-boiled" about the pasturization of milk in the city of Louisville. In other words, I do not believe all milk sold as pasturized milk in the city of Louisville is really pasturized. We are so constantly quarreling with people about defects in pasturizing plants that I have lost confidence about allowing everyone to pasturize milk. To be effective the pasturization of milk must be done by men who thoroughly understand the matter and who are willing to co-operate with health officials to see that we really have pasturized milk. Of course the utopian idea of having one or two plants pasturize all the milk for the city of Louisville leads us into economic difficulties, and I doubt whether we could force people to send their milk to these plants for pasturization. Until we have a national law I do not believe we will ever come to a complete understanding with the public on the question of pasturized milk.

Malta fever must be considered from an economic standpoint in relation to the female of the genus bovis. I understand the cow remains unproductive for several years after contagious abortion, which entails a considerable financial loss. In the human being Malta fever is worthy of consideration through fear principally, as it is not a fatal malady, but the morbidity means economic loss.

The mode of invasion is through the gastrointestinal tract. I believe the consensus of opinion is that it is very difficult to inoculate the animal by subcutaneous injection of dead bacteria, although this might be done by intravenous introduction. Why this is true I do not know. How are we going to prevent the disease in cattle? How are we going to protect the female against contagious abortion? How are we going to select and segregate animals already infected in time to prevent spread of the disease? I confess that I do not know.

The question of Malta fever is one which possesses considerable danger, and we as physicians should be constantly on the lookout for it as well as tularemia. I saw many of the latter named cases last year. These are important questions which should be recognized, and as health officer of the city, I ask you gentlemen to be constantly on the lookout for these diseases and send specimens of blood to the city health department for diagnosis by the agglutination test. We are always ready to make agglutination tests and report promptly on the diagnosis. The source of milk supply in Malta fever should always be given so we can trace the infection definitely.

I appreciate very much Dr. Jenkins' lecture on the subject.

W. H. Allen: As stated by Dr. Jenkins, the bacillus melitensis of Malta fever, and the bacillus abortus that causes contagious abortion in cattle, have been proven to be practically the same organism. They exhibit the same characteristics in ordinary dilutions in making agglutination tests. Morphologically they are the same, although culturally they differ somewhat. I believe the slight variation on culture is due to the fact that the organisms have grown over a period of time through different hosts.

The bacillus melitensis which causes Malta fever has been known in tropical countries for many years. The bacillus is found in the goat mostly. The bacillus that causes contagious abortion is found mostly in cattle. Another subdivision of the same organism is found in swine. The latter organism may be present in hogs for years, and although the milk may show infection the hog has never been known to abort. However, the organism that causes abortion in cattle may extend through the entire herd.

Early in 1928 we came in contact with a case of Malta fever as shown by the blood agglutination test. The State Board of Health became interested in the matter and made a culture of the milk which proved the case to be melitensis infection. Cultures of both blood and milk showed all the cultural characteristics of the bacillus melitensis. The difference in the agglutrating properties of these organisms referred to above is found only in the higher dilutions. Some observers have gone so far as to report that the blood of a normal individual will show agglutination at dilution of 1 to 40. Our experience has been somewhat different. As Dr. Jenkins stated, we have made it routine this summer to make a bacillus melitensis test of all specimens sent to us for typhoid or paratyphoid test. In no case in which we found the typhoid or paratyphoid agglutination positive have we found a positive agglutination for the bacillus melitensis. In only one case in which we found agglutination positive for the bacillus melitensis did we find the disease to be other than Malta fever, and that was a case of malaria. Whether this was a case of double infection I am unable to say, but evidently it was not as the patient responded promptly to quinine treatment.

May I be permitted to relate some of my experiences in Alabama five years ago? I have two brothers there who own dairies. They had this infection among their cows, and practically every cow in the herd aborted for three years. As Dr. Harris has stated, of course this was quite expensive to them. After a period of three years it seems that the cow becomes more or less immune and these herds had no further tendency to abort. However, the infection went through their herds and the cows continued to abort for three years. After that time there were no reinfections.

How infectious this organism is I am unable to say, but at no time during the past summer have I heard of two cases in the same family; so evidently it is not as infectious as the typhoid, paratyphoid or other organism of that group.

In the three year interval mentioned where abortions occurred in cows, I expect there were from 150 to 200 men employed in the different dairies of that community who were milking the infected cows daily. There was never in that interval among these men a case that resembles Malta fever, so I believe it is not very infectious. As Dr. Harris has said, the infection seems to be carried mostly by the male of the herd. For instance, if a male that has been kept with an infected herd is allowed to run at large, the infection is spread in that way.

The infection, as Dr. Jenkins stated, is evidently gotten mostly through the alimentary tract in the human and I have never heard of a lesion occurring on the hand as we sometimes find in tularemia. Last year some writer mentioned the possibility that the two organisms, one causing tularemia, and one causing contagious abortion, were the same. They are somewhat the same in staining and cultural characteristics, but evidently there is no relationship between them. Most of the tularemia infections I have seen were gotten through abrasions on the hands, and if they were the same organisms some of these milkmen would have become infected in that way.

In regard to the dilution in the agglutination test: The cases that we have tested have shown complete agglutination at 1 to 40 dilution. We have found few that agglutinated as high as 1 to 80. We have had some cases diagnosed as malaria, but laboratory tests proved them to be Malta fever. I have in mind one case in particular which probably Dr. Stites will recall. The patient was thought to have malaria, she did not have fever constantly, the temperature was erratic with occasional chill. The agglutination test was positive at 1 to 40. Everything else was done to prove that she did have something other than Malta fever, and the matter was only settled by laboratory tests. I understand the patient responded very well to vaccine therapy.

J. L. Jones: The subject of Malta fever has been so thoroughly covered by Doctors Jenkins, Harris and Allen that little is left to be said. About all I can do is to further emphasize certain facts that have been mentioned.

Undulant fever is becoming an important public health problem and a disease which every physician must take cognizance of in a differential diagnosis.

It is becoming generally agreed that in undulant fever we are dealing with a disease which has been with us for some time but just recently recognized. In 1926 this disease was a medical curiosity in this country. In 1927 over 100 cases were recognized and during 1928 upwards of 500 cases were discovered. In Kentucky during the past two years 75 cases have been diagnosed as Undulant fever.

In every state where effective measures have been taken to recognize this disease, a number of cases have been found, its occurrence being directly related to the means taken for its recognition.

Undulant fever is a communicable disease caused by a family of microorganisms known as the "Melitensis—Abortus Group," and classified at the present time as follows:

Genus—Melitensis—Abortus Group.

Species: 1. Brucella melitensis (goat strain).

2. Brucella abortus (bovine strain)..

3. Brucella abortus (porcine strain).

The differentiation of these species depends upon careful biological tests, including guinea pig inoculation, carbon dioxide consumption, glucose utilization and agglutinin absorption methods. Since simple agglutination is reciprocal among these different varieties it is of no value in distinguishing between them.

As indicated in the classification of the causative organism there are three main sources of this infection, goats, cattle and hogs. This disease was first recognized on the Island of Malta, in the Mediterranean and it was thought for a long time that it was spread only through goats. It is now known, however, that it may be contracted from cattle and hogs with infectious abortion, but it is just recently that these animals have become incriminated. So far as the United States is concerned it is the latter two that are important, since most of the cases in this country have been traced to these two sources.

Wherever investigations have been carried out, infectious abortion in dairy herds has been found to be widespread. Very often animals are found, by blood and milk examination, to be infected, although there is no history of abortion in the herd.

Undulant fever is transmitted in the following ways:

1. By ingestion of raw milk from cattle with infectious abortion and from goats infected with Brucella melitensis, commonly.

2. By the use of infected butter and cheese, rarely.

3. By direct contact with infected animals and especially the discharge from their urinary and genital tracts in ways to permit the contamination of blood and hands, occasionally.

4. By inhalation of dust from soil or surface contaminated by discharges of infected animals, rarely.

The incubation period seems to vary considerably, ranging from six to sixteen days.

Diagnosis is based on the clinical picture confirmed by laboratory tests.

It is quite impossible to make a differential diagnosis on the basis of clinical manifestations alone. Laboratory examinations are indispensable. The agglutination test is the most common laboratory procedure used in the diagnosis of this disease. This test is specific for the group of organisms responsible for Undulant fever and is just as reliable as the Widal test for typhoid fever. It is the consensus of opinion that a positive result in a dilution of 1:80 should be regarded as the minimum titre on which a positive diagnosis is established. In a great majority of cases the titre is much higher. Agglutinins appear in the blood of Undulant fever patients as early as the fifth day, and remain as long as the individual manifests clinical symptoms of the disease.

In consequence of our failure to recognize this disease it has invariably been diagnosed as something else. Typhoid and paratyphoid fever, influenza, especially the intestinal type, tuberculosis, malaria, sepsis from teeth and tonsils, septicemia and pneumonia are prominent among the diagnoses which have been made in cases which were later proven to be Undulant fever. In all probability a majority of the cases of atypical typhoid in which we have had negative Widals, have been Undulant fever.

The State Board of Health Laboratory is prepared to make the agglutination test for Undulant fever along with that for tularemia, typhoid and paratyphoid fever. Blood cultures will also be grown where indicated. All of these tests can be made from the same specimen, collected as for Wassermann, but under strict aseptic precautions. Write to the State Board of Health for a suitable container.

Unless cases of Undulant fever are diagnosed, little can be done in the way of public health measures. Therefore, it seems of utmost importance to encourage a wider use of the diagnostic laboratory service which is now available to physicians and public health officials of the state and to urge physicians to be on the lookout for atypical, long continued or undulating fever and joint troubles of doubtful etiology, and to submit blood specimens for laboratory examination on all febrile patients in whom the etiology of the infection is not clear.

It has been conclusively demonstrated that efficient pasteurization readily destroys any of the germs of this disease which may be present in milk, hence, this is regarded as the most important public health measure at our command in the control of this disease. The eradication of infectious abortion from infected herds is also an important public health consideration and the co-operation and support of physicians and public health officials should be freely given in assisting the Live Stock Sanitary Commission and other interested agencies in solving this problem.

Various vaccines for the prevention and treatment of Undulant fever are on the market; however, as yet no reliable statistical data has been presented to prove the value of these preparations. Therefore, we are not ready to recommend the use of any biologic products as a part of the control program of the disease, but we do feel that they offer a hopeful field for investigation.

The investigation of Undulant fever in this state has not been as complete or systematic as it should have been. However, we are attacking this problem with increasing effort. In addition to the State Board of Health Laboratory at Louisville and the Public Service Laboratories at Lexington, we have a number of private diagnostic laboratories in the state. A plan of checking and co-operation between these various laboratories is being worked out.

In December, 1927, thirteen cases of Undulant fever occurred in a boarding school at Hindman, Knott County, Kentucky. The diagnosis was based on laboratory tests. The herd supplying milk to this school was found to be heavily infected with abortion disease. No other epidemiological data was obtained. These were the first cases of this disease to be diagnosed in the state.

In July, 1928, an outbreak of Undulant fever occurred at Wayland, Floyd County, Kentucky. Seven persons contracted this disease. In this group there were five females and two males; two were in adults and five in children, ranging in age from 3 to 12 years. The agglutination test with the melitensis-abortus group of organisms was positive in a dilution of 1:80 in four instances, 1:160 in two cases, and 1:320 in one instance. These cases were all contracted from the same herd of seven cows. All of these cows were found to be infected with abortion disease, two of which were discharging the organisms in their milk at the time, as determined by quinea pig inoculation.

The next case investigated was that of the Clark boy in Louisville, which occurred the latter part of July. This boy was 18 years of age. His blood serum agglutinated the B. abortus in a dilution of 1:640. This case was contracted from milk from the family cow. Blood of this cow showed the same agglutination titre as the boy's with B. abortus. A guinea pig inoculated with milk from this cow died with all the symptoms of this disease, the specific organism being recovered from the heart's blood.

Between February, 1928, and February, 1929, 485 specimens of blood submitted for Widals and Wassermanns were examined by the agglutination test for Undulant fever at the Public Service Laboratories at Lexington. Eighty-nine of the specimens were fluid blood, the remainder being dried blood specimens. Of the 485 specimens, 24 were found positive for Undulant fever in a dilution of 1:80 or higher.

During the past fifteen months the State Board of Health Laboratory has been making routine examinations for Undulant fever on all specimens submitted for Widal. Through this procedure a diagnosis of Undulant fever has been made in 15 instances. These were sporadic cases occurring in different parts of the state and no epidemiological investigation was made.

In July of this year a small outbreak of Undulant fever in Lexington was investigated by representatives of the State Board of Health. There were six cases in this series, four males and two females, ranging in age from 5 to 52 years. The agglutination titre in these cases ranged from 1:120 to 1:2000. All cases gave a history of having used raw milk. Every dairy farm named as source of milk supply gave a history of abortion disease in the herd, though no tests were made on the cows. There was no history of direct contact with hogs in any case.

There is just one other point to which I would like to refer: There seems to be considerable speculation at the present time as to the relative importance of the different varieties of the melitensis-abortus group of organisms as the causative agent of human infection. Perhaps the investigations carried on by Huddleson and his co-workers in Michigan, are most enlightening in this connection. They examined 100 strains coming from the cow. Of these 100 strains, 86 were of the bovine-abortus type, 12 belonged to the Porcine species and two were of the melitensis variety. Twenty strains coming from the hog were all found to be of the Porcine type. Of 46 strains recovered from human beings 25 were of the Porcine type and 21 of the Bovine type.

At the present time we recognize milk as the most frequent source through which the disease is transmitted. As indicated above, cattle may harbor or become infected with either of the varieties of the melitensis-abortus group, hence either of these types may pass into the milk.

It is my understanding that the agency of the bull, which has been spoken of here, is of little importance insofar as transmission of the disease is concerned.

M. Casper: I have been interested in the subject of Malta fever for more than ten years, not so much from a clinical standpoint as the point of view of a dairyman. The disease is rather common among cattle throughout the whole country. Very few human beings are attacked, but the disease is of tremendous importance to the dairyman from an economic standpoint. A large percentage of the cows, after the so-called infectious abortion, become sterile, but all do not. As Dr. Allen has said, some of them do not remain unproductive for a great length of time.

The point has been raised, why do we not see more of this disease in human beings? The majority of people drink milk direct from the cow. This is especially true in the country, yet very few people in the rural districts have Undulant fever. This would seem to indicate that the danger of infection is slight.

Another observation I have made, and I think it is now the consensus of opinion, is that the bull does not transmit the disease, it develops originally in the female. My attention was first called to this by Dr. Wm. C. Dugan, who is a keen observer, and whose dairy is near mine. He says the bull does not transmit the infection, because examination of the testes shows absence of the organisms, that the disease is carried through the gastrointestinal tract.

This is a tremendous economic problem for the dairymen in this section of the country and elsewhere. Dr. Hardy, who is a dairyman, emphasizes the importance of protecting young heifers. All the dairymen are wise to this fact and separate their cattle into different herds.

I am satisfied the disease in animals is not due to an entirely different bacterium than produces Malta fever in human beings, most likely a different strain of the same species of microorganisms but human infections are rather uncommon.

R. Alexander Bate: In addition to what Dr. Allen and the others have said, I would like to thank the Health officer and report the case he referred to; also I would call attention to the influence of the bull in propagating the disease among cattle. Malta fever in cattle is strictly a venereal disease, the bacteria are contained in the vaginal discharges, and it seems entirely reasonable that the bull should carry the infection from one cow to another in the performance of his functions. It has been shown by some observers that cutaneous surfaces do not exclude this infection, but it is probably true that in the majority of instances the bacteria are taken into the alimentary tract.

In regard to the case I reported to the city health officer: The patient's blood was tested at the laboratory and showed positive agglutination for the bacterium melitensis in dilution of 1 to 40. The diagnosis of Malta fever was made on this basis by Dr. Allen and the patient presented the usual symptoms of influenza, but there was more abdominal distension than is generally present. He was given what has been my custom in these cases, viz, capsules containing guinacal carbonate, trypsin, etc., and a small amount of calomel. Three days later after a Pendennis dinner, his abdomen was markedly distended, he had fever and diarrhea, he had no other manifestations whatever. It was on the fifth day after onset of symptoms that Dr. Allen made the diagnosis of Undulant fever. The most marked clinical symptoms were fever and abdominal distension. The patient has had no further trouble. Ten days or two weeks afterward he went to Atlantic City and has remained in perfect health.

The patient was given hormones, trypsin and colloidal gold solution. I believe the trypsin accomplished more good than anything else in this case.

Frank M. Stites: Last year I had the opportunity of seeing two cases of Malta fever in the same family. I was asked to see the first patient by Dr. Henderson. This was a man who had been complaining for a week or two of headache, fever, abdominal pain and distension. Physical examination otherwise negative. He continued to have fever, and the following day a specimen of his blood was sent to the laboratory. Examination showed agglutination positive in dilution of 1 to 40. The disease responded readily to treatment and was of rather short duration. Because of this and the fact that the temperature did not present the typical undulant curve, I hesitated about calling it Undulant fever. However, the laboratory diagnosis was Malta fever.

I then saw the other case in which the disease was of much shorter duration. The temperature showed sharp rise and decline at intervals presenting the typical undulant curve. In this case the agglutination test was positive in dilution of 1 to 80. This patient was the wife of the man in the first case narrated. Her recovery was uneventful under intravenous administration of dyes.

Another patient was a young woman from the country who was taken ill on Easter Sunday. She came to Louisville in June and after a severe chill was sent to St. Joseph Infirmary. No definite diagnosis had been made. Her tonsils were removed but she continued to have fever. She went home and again, early in August, returned to Louisville for roentgen-ray study. During routine examination at the hospital Dr. Allen made the diagnosis of Malta fever, and I was then asked to see the patient. The agglutination test was positive in dilution of 1 to 40. She was treated in the usual way including administration of dyes intravenously. I used both acriflavine and metaphen, but there was little response. Her spleen was considerably enlarged and she had several hemorrhages from the nose. She was emaciated and appeared quite ill. After five injections of acriflavine without apparent benefit, I decided to discontinue its use, and then gave her five doses of metaphen with similar results. About that time a representative of the State Board of Health asked if my attention had been called to a vaccine for Malta fever made in Kansas City. Some of this vaccine was procured and after four doses had been given the response was spectacular. The temperature soon became normal and after three days the patient returned to her home, receiving in all, six doses of vaccine. Her father is a physician in a small Kentucky town. He was in my office recently and said his daughter had been attending to her work until two days before he started for Louisville, when she began having fever. Yesterday I received a postal card from him saying the fever lasted only a few days, but recovery is evidently not complete and I advised the second course of vaccine.

I am not enthusiastic about vaccine in the treatment of Undulant fever. These patients often respond very nicely to symptomatic treatment but in some cases the disease extends over a long period of time. In the case just reported the result was encouraging following six doses of Malta fever vaccine.

I think one reason why we failed to recognize Malta fever, as such, in earlier days was because there was so little known about the disease and so little effort made to check its progress. It has evidently been here for many years. I believe one great aid in the prognosis is to determine the duration. Those cases early recognized respond nicely, but those of long standing are quite slow in responding to any treatment. The duration is fairly proportional to the length of time the disease is undiagnosed and untreated.

Etiology of Angina Pectoris—Dmitrenko believes that clinicians have exaggerated the importance of syphilis in the etiology of angina pectoris. He states that more consideration should be given to emotional disturbances in the origin and course of this condition.

MAMMARY CARCINOMA*

By Simrall Anderson, M. D., Louisville.

From some little review of the literature, comparative statistical studies of breast carcinoma, as far as end-results are concerned, seem to have changed very little within the last ten or twelve years, at least as far as the curability of this disease is concerned.

In this report I am considering those cases of carcinomatous tumors of the breast. All were operated upon regardless of the amount of involvement (glandular or otherwise). The length of time that the growth had existed, was not considered.

From January 1920 to March 1925, I operated upon twenty-five cases. None of these cases was irradiated either before or after operation. All were women, all white. The youngest patient was 37, the oldest 74 years. These results followed.

In ten cases no enlarged axilliary glands could be felt before operation, consequently I believe they can be called early cases. In nine axillary involvement was easily detected. Six cases had progressed to ulceration, and two of these had been previously operated upon. Unfortunately I have no records of the length of time between the patient first noticing the enlargement and coming for treatment. Three patients died within 18 months after operation from the disease; these were from the cases that had ulcerated and were hopeless from the start; operation was only performed to alleviate suffering and avoid very disagreeable odor of the sloughing growth constantly under the nose of the patient. Four died within the next, or second, 18 months, making a total of seven of the twenty-five dying within three years. Of these seven, six died of general carcinosis with its cachexia, etc. The other one died of cerebral hemorrhage twenty-six months after operation with no apparent sign of recurrence. Six died within the next two years from metastases, etc., making thirteen fatalities out of the twenty-five cases within five years; that is 52% living after five years. Two have been lost sight of; however, I believe one has since died. When last seen two years ago she was suffering from some pulmonary trouble which probably was a metastasis of the old cancer.

One patient operated upon in May, 1920, returned during the past year for removal of the other breast. This proved to be a carcinoma. There was no evidence of any trouble whatever from the previous operation, consequently I believe she was cured, after nine years, and that the second tumor was an entirely new growth.

Three of the patients died within the past five years; one from cardio-vascular nephritis, one from carcinoma of the liver, etc., the other from pneumonia, leaving seven now living and apparently in good health except the one returning for amputation of the second breast in 1929. This gives a cure by surgery alone in this small series of cases of 28% after ten years, with 48% living after five years.

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*Read before the Jefferson County Medical Society.

In the Journal of Radiology for 1928 an article by Portman of the Cleveland Clinic states that in thousands of cases compiled from the literature the curability of breast cancer is 28.8% for the five year period. He also states that Perthes called attention to the fact that recurrences appeared more frequently after intensive post-operative irradiation than after surgery alone, and that others had also been unfavorably impressed with this method (cross-fire). However, he states that sufficient light irradiation should be used, and that it decreases the number of recurrences and metastases. No mention is made of pre-operative roentgen-ray therapy.

In the New England Journal of Medicine for January, 1929, an article by Daland states that, based on 675 cases, he does not believe the use of roentgen-ray is wise in pre-operative treatment. In a recent series studied by Daland and Greenough, from nine selected different hospitals, the final figures are the same whether or not post-operative roentgen-ray treatment was used.

A short time ago at the International Cancer Congress in England the conclusion was reached that the roentgen-ray or radium, or both, had proven of no benefit whatsoever in breast cancer. A Louisville surgeon, Dr. Leo Bloch, was present when this report was made.

My experience with roentgen-ray and radium has been so very unsatisfactory that I, at present, believe that surgery alone promises most. The most intense suffering I have ever seen from breast cancer, was in the cases where radium and the roentgen-ray had been used before and after operation. In three such cases the fibrosis, swelling or whatever it may be called, was so great in the arm, which was so hard and the axilla so infiltrated, that return circulation was almost impossible, to say nothing of the pressure on the nerves. Another patient suffered a burn over the entire chest, back, and arms on both removed and unaffected sides. The pain suffered in these cases could not be quieted by very heroic doses of morphine. The burn was accidental, and I believe now very rarely occurs.

In my opinion, cancer of the breast, is curable when removed early with all involved tissue, glands, muscle, etc. I do not believe that any breast cancer is inoperable on account of extensive gland involvement or ulceration. It is far better to remove an ulcerated breast, even with metastases in the lungs or elsewhere, than to have to care for the painful open foul-smelling wound.

Only very few cases are seen when the mass cannot be removed, the skin loosened and brought together. This procedure I have found relieves pain and in conjunction with removal of the enlarged glands prevents axillary pressure and interference with the circulation.

Even in these far advanced cases I have been thus able to control pain, and have had practically no arm swelling.

Although this is a report of only a few cases, I believe from previous experience, and since the last of this series, covering about twenty-nine years in all, that I will continue the same line of procedure. After all much of the final results depends upon early diagnosis and operative treatment which surgeons are at present so faithfully endeavoring to impress upon the laity. I am sure that in some other cancerous conditions, especially that of the cervix, we have no remedy of such benefit as irradiation; but in this one particular I hope in the future something may develop as an adjunct to or substitute for surgery, which will promise more in this condition than the present offers. Let us all hope so.

DISCUSSION

I. T. Fugate: I do not know whether Dr. Anderson's paper is presented to enlighten us on the subject of surgery of mammary carcinomas, or whether it is to discredit radium and roentgen therapy as an adjunct to the treatment of this disease. Certainly everyone in the medical profession is interested in doing everything possible to alleviate the pain and suffering in these unfortunate people. I am not speaking of the subject from my own experience as it has been very much limited, but will say to take the records of the Mayo Clinic, Memorial Hospital and men like Bloodgood, Pfahler, Ewing, Wood and many other of the outstanding men in this country, and Europe, that they do not agree with Dr. Anderson on this subject.

There are very few of the outstanding surgeons in America and Europe today who do not believe that a thorough post-operative radiation of breast cancer adds materially to the ultimate good results. Not only a post-operative series of therapy, but many today are demanding a preoperative series. I do not at this time recall percentages and figures but I think any of you who care to investigate this will find that the percentage of patients who have a post-operative series of therapy after removal of the breast, are better than the figures on those who do not have any therapy whatever. At the same time the patients who have both a pre-operative and post-operative series show a greater percentage of five year cures. I believe that statistics from these men alone should be convincing that radium and x-ray therapy has a field in treatment of mammary cancers and I do not believe that we are justified in neglecting to give these unfortunate people every advantage to produce good results.

I have enjoyed Dr. Anderson's paper very much and I thank him for presenting the subject.

L. Wallace Frank: I wish to rise in defense of my friend Dr. Simrall Anderson. As I unstood the previous speaker, he said there were no statistics equal to those presented by the essayist. White of Johns Hopkins Hospital, in studying 157 cases, noted five operative deaths with 36 per cent five year cures. In patients with axillary metastasis there were 19 per cent of five year cures. In those with no axillary metastasis there were 70 per cent five year cures out of 61 cases. Greenough and Simmons of the Massachusetts General Hospital, in a study of 60 cases report 32 per cent of five year cures. In cases with axillary metastasis, there were 15 per cent of five year cures. It must be remembered that the essayist operated upon several hopeless cases. Sistrunk and MacCarty, of the Mayo Clinic, in a series of 218 cases report 34 per cent of five year cures. Moschowitz in 89 cases reports 34 per cent five year cures. In cases with no axillary metastasis Greenough and Simmons report 56 per cent of five year cures. Sistrunk and MacCarty report 63 per cent of five year cures in cases with no axillary metastasis. Mills in a study of 56 hospital cases with metastasis reports 12.5 per cent of cures at the end of six years. In 15 private cases with metastasis he reports 40 per cent of cures. He attributes the difference in results between hospital and private cases to the fact that in the latter irradiation was practiced more widely. In cases with no axillary metastasis, Mills reports 62.9 per cent of cures. Our own figures are about in line with those quoted, namely about 34 per cent of five year cures.

The modern surgical procedure for breast cancer was largely influenced by the work of Halstead in 1894 when he devised the so-called radical operation. To my mind there is but one radical operation, and that is excision of the breast with the overlying skin and both pectoralis muscles together with the axillary tissues, glands, etc., extending along the axillary vessels. It is the custom of quite a number of operators to leave the lesser pectoral muscle. I think that is a great mistake because it does not give you as free access to the axillary canal as when the muscle is removed. By removing this muscle we can dissect upward practically to the sterno-clavicular junction. A lesser procedure than that is not radical surgery. In making a complete amputation of the breast I believe the fascia of the rectus muscle should also be removed. There is no question that extension sometimes occurs into the liver and abdomen through this tissue. We should dissect well toward the midline, as it has been shown by Handley that much of the metastasis to the lung is along branches of the internal mammary vessels.

There is another factor in this disease which I think should be emphasized, and that is its relationship to chronic cystic mastitis. Beadles in a microscopic study of 100 cases of breast cancer found chronic mastitis in every one, and so did Victor Bonney in a similar study. It has been our observation in every case of mammary carcinoma removed and studied carefully to find areas of chronic mastitis. In all cases of chronic mastitis operated upon we have found evidence of Reclus' disease, that is a "piling up" of epithelium in the cysts in the breast. Personally I think the breaking through of this epithelium plays a large part in the production of carcinoma.

J. Garland Sherrill: The medical profession is so little in agreement on treatment of cancer of the breast that patients usually receive very different opinions from different individuals. This leads to confusion, even to delay, with the worst results instead of the best.

There is quite a difference in the malignancy of various breast tumors. In one instance, an elderly patient with a slow growing schirrus cancer may live for many years, and radical removal will prove successful. On the other hand, a woman 24 or 26 years of age, seen within a few days after she has noticed the growth and operated on immediately, will have a recidive within three months and be dead within a year.

Preliminary radiation with a view to blocking the glands prior to operation has not impressed me favorably. Some of the best results I have obtained have been from radical removal without any radiation before or after operation. Superficial recurrences near the scar are often benefitted by light forms of radiation. The use of excessive voltage deep radiation therapy has not proven satisfactory in breast cancer. The general consensus of opinion, however, at the present time is that early and radical surgical removal gives the best results of any method of treatment. With the assistance of a competent radiologist and proper application of the roentgen-ray combined with surgery a greater percentage of patients may be saved; but until the profession becomes more certain in its advice to the lay public regarding the handling of breast tumors, progress is going to be slow in this field.

Closer co-operation between radiologist and surgeon is certainly advisable, because they see this work from entirely different angles, and their results can only be correlated by close co-operation.

Fred L. Koontz: As to the question of irradiation either before or after excision of the breast for carcinoma, I am undecided. I am trying to hold an open mind. I considered this a procedure which might be extremely useful, but my opinion has undergone some modification. After all, the real question is, what are we going to do about it? Our methods of practice are moulded by discussions among ourselves, by the experiences of men we know personally rather than by statistics.

My honest opinion is that every surgeon in Louisville is going to be guided largely in his future practice by observations of his own and his confreres.

Every patient with proven adenocarcinoma of the breast that I have seen, who was subjected to irradiation with either radium or the roentgenray, has died. As I look backward over the series I am impressed with the fact that there is not a patient who was given irradiation that is living today; not one of them lived over three years.

Another thing I have observed recently; and such experience as I am going to relate should be brought before this society and discussed, is the following: When a woman has had a radical breast amputation, so radical that both the major and minor pectoralis muscles are removed with complete dissection of the axilla, should this woman have a series of irradiations at a late period afterward? In one of my cases the patient had x-ray shortly after operation, then returned for observation at the beginning of the third year. At that time there was no evidence whatever of a recurrence and yet the roentgenologist insisted upon giving her another series of irradiation. A few weeks later she returned with the arm greatly swollen; in other words a quick recurrence of the carcinoma. The question is whether this woman would have had a rapid recurrence had irradiation been omitted? I doubt whether it was at that time advisable.

Experiences of that kind make us consider very seriously whether irradiation after operation for breast cancer is indicated; and especially whether a late irradiation might not whip up a latency.

Robert P. Ball: The treatment of breast cancer is intimately related to the diagnosis of tumors of the breast. For this reason I would like to emphasize a well-known statement: "Tumors of the breast should be considered malignant until proven otherwise." If this is held in mind there is then a well defined routine procedure to follow in every case of breast tumor. The tumor is excised and then sectioned. If it is a malignant tumor the operative procedure is extended in the approved way, and if it is benign the operative wound is closed. Such a simple, logical routine as this ought to be universally applied, but, surprising as it seems, it is not done often enough. If the operator is not able to distinguish between the malignant and benign tumors after section, he should ask the aid of a competent surgical pathologist.

To illustrate what I have just said. In the past two weeks I was called in consultation to make a rush diagnosis in two cases of breast tumor. The first was a spinster, age forty, who had a tumor in the upper inner quadrant, which was diagnosed sarcoma. The tumor was widely excised and when sectioned it was found to be benign fibro-adenoma. The second was in a woman, aged twenty-six. The pre-operative diagnosis was a benign tumor. The operator became apprehensive over the large size and amputated the breast, saying he thought it was a sarcoma. On section, the tumor was found to be a benign fibro-adenoma. This was a needless sacrifice of the mammary gland. It seems to occur too frequently for this organ is a valuable cosmetic and utilitarian asset.

The type of treatment which should be employed in advanced cases of breast carcinoma with axillary metastasis is one which is a universal procedure at the present time, varying only in respect to the use of radium or x-radiation as an aid in destroying the neoplastic cells. The most certain and sure way of eradicating these neoplastic cells is by excision, and I believe this should always be done as Dr. Anderson has stated. However, I do not believe it is necessary to mutilate the patient by excising the pectoralis major and minor muscles when the tumor has not extended into them. It is sufficient to thoroughly dissect the axilla, which can be done with these muscles in situ. My reason for making this statement, which is contrary to the teaching of Halsted, is that we do not see recurrence of breast cancer in the pectoralis muscle but in the skin or lymph nodes. It is an extreme rarity for breast cancer to metastasise to skeletal muscle. I believe it possible to dissect the axilla with the pectoralis muscle in situ. This is just as effective, less mutilating, and more nearly approches physiological surgery which is the advancement made in the surgical field since the days of purely anatomical surgery.

Whatever the most efficacious treatment will prove to be for breast carcinoma it must depend upon complete death of the neoplastic cells. In the advanced case with metastasis beyond the axilla surgical procedures are futile when used for a cure. In the early cases it is the ideal treatment. If radium or X Radiation can retard the growth of the cancer cells or destroy them it has its useful purpose, but the primary tumor mass can be destroyed easiest and safest with more physical and mental comfort to the patient by complete excision.

John K. Freeman: I have had the pleasure of assisting Dr. Anderson in a number of the cases he has reported. I think we must conclude that Dr. Anderson's good records were made possible by his being a good surgeon. He is very thorough in his work, and whenever there is any doubt he goes a little further to be sure.

The essayist's experience with radium and the roentgen-ray has been about like mine. My experience with irradiation has been very sad. We are told that we must not discourage men who are using irradiation in the treatment of cancer. They know just as much about the x-ray and radium as we know about cancer. They cannot tell us how these agents act, nor can they tell us why these agents are so highly recommended. In the cases of breast cancer in which I have seen roentgen-ray therapy used the result was disappointing, it seemed to scatter the disease throughout the system. When we learn more about radium and the x-ray I may then call on some of my x-ray friends for help.

I have operated upon quite a number of patients for mammary carcinoma, and some of them are living and perfectly well today; in others such favorable results were not secured. In none of these living cases was either the roentgen-ray or radium used.

D. P. Hall: I congratulate Dr. Anderson on his excellent results without the use of preliminary x-ray treatment, also post-operative treatment. I think some of his good results are due to early operation on breast malignancy, also due to the fact that he dissects the axilla well and down on arm.

Personally, I think that the x-ray man and we who operate on these malignancies should get together.

Prof. Gask in the last issue of the British Journal of Surgery, seems to think that most exposures are too light with both x-ray and radium, especially in the axillary region.

It seems to me, as the previous speakers, Dr. Frank and Dr. Sherrill said, "The key to the situation is better co-operation between the x-ray men and the surgeons."

C. H. Harris: After thirty years experience as a general practitioner, I have yet to see any woman with cancer of the breast, no matter how early operated upon and whether the roentgen-ray was used or not, if she had not passed the menopause, she had a fatal disease. I have never had under observation a single woman with mammary carcinoma, and I have had quite a number of them operated upon by some of the best surgeons, who made a satisfactory recovery if she had not passed the menopause.

Henry C. Herrmann: After all that has been said, we must not overlook the fact that roentgen and radium radiation has been of great value in the treatment of cancer. I still believe that in selected cases we can destroy cancer cells with x-ray or radium radiation; whether the growth be primary or metastatic; or when the cells are embryonic, or well defined and differentiated. The lethal dosage of radiation depends on the type of cell treated, as their lethal dosage varies according to the type cell or their cellular activity.

In a previous discussion it was stated that after amputation of the breast and removal of the axillary glands some cancerous cells may be left and that the patient should be radiated to destroy any remaining cells. While another says that the London Journal states that the radiation will activate, or excite cancerous cells. These statements are contradictory. In selected cases irradiation certainly accomplishes great benefit and there is little danger of stimulating the cancer cell to renewed activity if the proper dosage and method of treatment is resorted to.

Often a surgeon places the radio-therapeutist in a very difficult position. He usually sees the cancerous breast before the roentgenologist and when the cancerous breast has reached the point where surgery is of no value he refers the patient to the x-ray therapeutist, who then has to do the best he can. These cases are hopeless and statistics compiled on this basis will always be unfair to the radiologist. As a rule the surgeon has the chance to operate and then the radio-therapeutist gets what is left over. I still believe that irradiation has accomplished a great deal in the treatment of cancer.

A. R. Bizot: I have amputated a few breasts myself, and several are still alive after an extended period of time, without recurrence.

The laboratory findings have deceived me on several occasions; they have reported a benign tumor which recurred; again, a malignancy has been reported, and to date there has been no return.

There seems to be an especially malignant type of cancer that invades the breast, and to my own satisfaction this much has been established: where it was unquestionably and positively cancer, I have my first one to recover, and where patients do get well we were mistaken in our diagnosis.

I doubt the correctness of statistics of some surgeons who report 50, 70, or 80 per cent cures in cancer of the breast; irrespective of time or method of treatment adopted.

D. Y. Keith: You have heard both sides of this question, more particularly the surgical side. So far as statistics are concerned, we know we can take statistics and prove anything we wish. I have heard Greenough read his paper twice and am familiar with his statistics. As a result of his report the hospitals in which he is working are providing themselves with better equipment than they have had in the past. His latest report has not yet been published as it was read in September, 1929. His first two reports referred only to the old type of x-ray therapy.

I am in complete accord with the attitude assumed by Dr. Sherrill in his discussion. As he has said we are not making much progress so far as cancer is concerned. When a breast cancer is removed we cannot predict in any case just what will happen later. We should do everything possible in these cases to relieve the pain the patient suffers.

An interesting report appeared in Surgery, Gynecology and Obstetrics the latter part of last year in which the author had gone back over his cases of tumors of the breast and studied the statistics. He found there were one hundred and thirty-three names used for various tumors of the breast. That gives an idea of how confusing tumors of the breast are. The scirrhous cancer is slow in growth and of long duration, whereas medullary cancer grows rapidly and should be discussed as a different disease.

The only way we are going to get anywhere so far as x-ray, radium or surgery is concerned in the treatment of cancer, is that we must take each type of cell as a separate disease, study its characteristics and then determine what we are going to do with it.

As another illustration of the variation in statistics: There is a recent report in which a man has proven to his own satisfaction, by going back over a series of cases of cancer of the breast in which there was no treatment whatever applied, taking the statements of the patients as to the time the tumor first appeared as the origin of the disease, that there were a greater number of them living who had received no treatment, surgery, radium, x-ray or anything. That shows you can prove anything you like so far as statistics are concerned.

Anyone who sees and treats a great many cases of cancer becomes convinced in a short time that there is no tumor anywhere that does not show some effect from irradiation. Some are very sensitive, others are more resistant, but all show some effect. This has been proven many times in the treatment of malignancy.

The fairest report I have heard discussed, which is not in publication yet, comes from Harper Hospital, Detroit, where all cases have been studied very thoroughly with the idea of determining whether any good has been accomplished in malignancy by x-ray therapy after operation. Patients in the same hospital, operated upon by surgeons of equal skill, had no irradiation either before or after operation. At the end of five years statistics show a greater number of patients living who had post-operative irradiation than those who did not.

Dr. Hermann spoke of the type of cases the radiologist gets. We get many cases that are absolutely hopeless. We have seen four such today, all of them have distant metastasis, all had been subjected to mutilating operations, all have painful scars, two of them have recurrences along the line of incisions, all show bone metastasis. These are the types we get and we know they are hopeless cases.

We have a series of cases that we hope to present within a year, in all the breast had been amputated, radium was used in the axilla, and all had post-operative irradiation. I believe we will show a higher percentage of five year cures than in patients without irradiation or those with radical operation.

We are often consulted by patients who have distant metastases in bone or lung. All of these cases show improvement under irradiation.

George A. Hendon: The element in this discussion that impresses me most is the fact that it is more amusing and entertaining than instructive. At least it has been a fruitful discussion, and yet we know that in cancer, after a certain stage has been reached, surgery, radium and roentgen-ray combined will be of no avail. I am reminded of the man who received a telegram stating that his mother-in-law was dead, and asking whether they should "embalm, bury, or cremate." His reply was "all three, take no chances." If cancer has progressed beyond a certain stage, you may apply all three of the remedies mentioned with the same result—failure.

Early diagnosis in cancer is most important, but we cannot make an early diagnosis unless we see the patient. There is a period in the career of every cancer when it is curable. Of course I mean accessible cancer. We must devise some means by which the diagnosis of cancer can be made before it becomes incurable. We must educate people on the question of prevention and impress upon them the importance of periodic health examinations. In that way we may be able to discover cancer in its earliest stages.

Another thing that makes the cancer problem more confusing is the varying degrees of malignancy.Some cancer cells are of low grade malignancy, others are of high grade malignancy. You can use one remedy and cure cancer, yet that does not mean you have discovered a "cancer cure."

You can use the same remedy and fail, yet that does not mean the remedy is a failure. We can cure cancer of the lower jaw, but we cannot cure cancer of the upper jaw.

Simrall Anderson, (in closing): I appreciate what has been said about the different types of cancer and variations in malignancy, etc. The cases reported were not selected, they were all private patients, and all as stated, were operated upon regardless of the stage of the disease.

What is the best way to handle cases we know we cannot cure. Shall we use radium and the roentgen-ray, or shall we attempt to relieve them by surgery?

I am convinced that in cancer of the cervix, the best procedure is to use radium. But in cancer of the breast the knife will do far better than anything else. I am of the opinion that the x-ray and radium are absolutely contraindicated in mammary cancer.

IMPORTANCE AND CLINICAL SIGNIFICANCE OF BASAL METABOLISM STUDIES*

By Emmet F. Horine, M. D., Louisville.

Metabolism constitutes the sum total of the chemical processes occurring within the body. Those changes which are constructive are spoken of as anabolic ones while the opposite ones are catabolic. The rate at which the chemical changes occur is quite variable and depends upon many factors such as age and sex of the individual, the amount and kind of food taken just prior to the examination, physical or mental activity et cetera. After a sixteen hour fast and with the body recumbent and motionless metabolic processes are reduced to a minimum and are then said to be basal. Therefore, under such conditions the basal metabolism or the basal metabolic rate is determined.

The bodily chemical changes are mainly oxidative processes with resulting liberation of carbon dioxide and generation of heat. It follows that if either the amount of oxygen consumed, the amount of carbon dioxide liberated or the amount of heat given off by the body is measured the metabolism can be determined. The most accurate method for the estimation of the metabolism is the determination of the heat given out by the patient. This calorimetric method requires not only considerable time but necessitates very elaborate and expensive equipment. Fortunately in 1908 Benedict demonstrated that the amount of oxygen consumed was a direct index of the rate of metabolism. The modified Benedict apparatus in use at present which measures the oxygen consumed is relatively simple, easily handled and sufficiently accurate for clinical purposes.

Following the fast and after thirty to forty minutes rest in the recumbent posture the patient is connected by means of a mouthpiece to the respiration apparatus which is filled with oxygen. Within the oxygen chamber there is a carbon dioxide absorbent (usually soda-lime) through which the expired oxygen mixture is caused to pass. Thus the carbon dioxide given off by the patient is absorbed leaving pure oxygen always present for inhalation. In the usual clinical type of apparatus no attempt is made to determine the amount of carbon dioxide liberated since a knowledge of the oxygen consumption is all that is desired. Ordinarily an ink kymographic record is made from which it is quite easy to measure the amount of oxygen consumed in a given period. Actually, therfore, if one will think of metabolism in terms of chemical activity as represented indirectly by oxygen consumption, a clear concept of the procedure is obtained.

Basal metabolic rates are expressed in percentages starting from an arbitary zero point. The normal range of rates varies from 15 per cent above (plus 15 per cent) to 10 per cent below zero (minus 10 per cent). The term plus indicates the amount of oxygen consumed above the arbitrary zero point while the term misus indicate a decreased oxygen consumption. Increased metabolic rates are encountered in the following conditions: fever from and cause, pregnancy, hyperthyroidism, cardiac decompensation, pernicious anemia, leukemia, polycythemia and in the early stages of both hyperpituitarism (acromegaly) and diabetes. Lower metabolic rates than normal are encountered in: hypothyroid states (cretinism and myxedema), pathological obesity of hypothyroid or pituitary origin, emaciation and malnutrition from any cause (tuberculosis, starvation), late stages of hyperpituitarism and diabetes, certain cases of arthritis, eczema and ichthyosis. In fever the increase in the metabolic rate is from plus 5 to 10 per cent for each Fahrenheit degree above the normal.

The above list of conditions in which the metabolic rate is abnormal constitutes a rather formidable one. Yet considering the individual diseases listed it will be seen that most of them can be recognized without resort to metabolic studies. However, it is essential that the physician remember all pathological states in which there may be an altered metabolism in order to avoid error. In borderline cases the value of basal metabolic studies is recognized of great importance. Actually in many cases the estimation of the basal metabolism is as essential as a temperature reading or a blood-pressure estimation or an examination of the urine.

While the physician doing special work may make basal metabolism tests more or less routinely the general practitioner needs only to remember that there are certain groups in which the test is essential. The first group to which I desire to direct your attention is that in which tachycardia is an outstanding symptom but without any gross pathological condition present to explain it. The patient may be nervous, may show a tremor and may have lost in weight. The thyroid may or may not be enlarged. Properly performed and checked basal metabolism tests are of immense value in determining whether or not hyperthyroidism is present. It is especially important to remember that though the clinical similarity between hyperthyroidism and effort syndrome is striking basal metabolic rate determinations will immediately differentiate them.

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*Read by invitation before the Shelby County Medical Society, Shelbyville.

Cases of auricular fibrillation not manifestly the accompaniment of a mitral stenosis or of a senescent heart deserve to have a metabolism test made. Finding an otherwise unexplained auricular fibrillation leads me to be quite suspicious of a possible toxic thyroid condition.

That group of patients presenting a high pulse pressure as the result of a somewhat elevated systolic and a definitely lowered diastolic pressure, which is not accompanied by an aortic insufficiency, should have a basal metabolic test. Such an elevation of the pulse pressure makes one suspicious of a hyperthyroidism and the test is thus of great value.

In patients presenting a low systolic blood pressure the basal metabolism is of value in ruling out a hypothyroidism. Further those with low heart rates should be thus studied. The so-called "myxedema heart," in my experience, is very rare but the patients in the hypothyroid group do complain of easy fatigue, moderate shortness of breath and even at times, of palpitation though slow heart action is the rule. In some of these cases a diagnosis of "chronic myocarditis" had been made by some one in the past. In studying our heart cases we quite frequently find that basal metabolic rate studies are of inestimable value.

Also in the non-toxic adenoma of the thyroid normal basal metabolic rates are encountered. In the toxic adenoma the basal metabolism will be from plus 20 per cent in the milder types to perhaps above plus 60 per cent in the severe ones. The basal rate is on an average higher in exophthalmic goitre than in toxic adenoma being between plus 30 to plus 80 per cent.

The study of any obese patient is not complete unless the basal metabolism is determined. There is a reduced metabolism even to minus 20 or 30 per cent in pathological obesity of hypothyroid or pituitary origin. Suitable glandular therapy is of course indicated. However, it must be remembered that in simple obesity the basal metabolic rate is normal and that the administration of thyroid is here decidedly harmful because of the resulting increased combustion of muscle instead of fat.

Attention should be called to the fact that metabolic studies are of value in certain skin conditions notably eczema and in ichthyosis, which may have a hypothyroid basis. Also certain cases of arthritis with lowered metabolism show some improvement when given dried thyroid.

In having had an opportunity to observe tests as run in various clinics and hospitals there occur, at times, unfortunate errors in technique leading to a false report. This being true, one should not always rely upon a single test even though performed by a physician extremely proficient. However, with proper technique and check tests the results are accurate and valuable. The presence of congestive heart failure may be accompanied by a slight increase in basal metabolic rate. Further individuals with essential hypertension may show a moderate increase in oxygen consumption and therefore, unless one realizes this, hyperthyroidism might be suspected.

Briefly then basal metabolic studies are of great value in patients with:

1. Tachycardia not directly due to a cardiac conditions:
2. In cases presenting bradycardia;
3. In those with a high pulse pressure which is not due to aortic insufficiency;
4. In patients with hypotension;
5. In the obese;
6. In an individual with obscure heart symptoms constituting the so called "chronic myocarditis" case;
7. In patients presenting an unexplained auricular fibrillation.

Properly done and properly interpreted the basal metabolism test is of decided value. In clinical medicine it is a test that will continue to be frequently performed. Especially with patients presenting cardiac symptoms I find the test of inestimable value.

Incidence and Interpretation of Heart Murmurs—In 1,166 consecutive cases, 127 accidental heart murmurs were discovered by Gibbes, while thirty-nine, or 3.3 per cent of the cases, showed murmurs indicative of organic valvular disease. All of the accidental murmurs were systolic in time, and 84 per cent of them were heard at the base of the heart. Transmission of accidental murmurs is relatively rare. Nine and four-tenths per cent of the murmurs so classified were transmitted to the axilla, and only 0.8 per cent upward from the base. Cardiac hypertrophy was encountered in association with accidental murmurs in 8.6 per cent of the cases, but in every instance it was possible to account for the hypertrophy independently of the murmur. Cardiac hyperthrophy is a necessary part of organic valvular disease. Accentuation of the pulmonic second sound is heard in connection with accidental murmurs of the inorganic type, but is not to be expected with other types of these murmurs. Gibbes feels that other evidence than that afforded by a murmur must be found before a heart is assumed to be diseased.

WOMAN'S AUXILIARY NOTES

CARD PARTY

The Woman's Auxiliary, Jefferson County Medical Society gave a card party following a tour of inspection of Ewing's Creamery on Monday, February 10th, '30 at 7:30 p. m. All the tables were taken and D. H. Ewings and Sons served delightful refreshments. The party was such a success that the Auxiliary plans to give another soon.

The Woman's Auxiliary, Jefferson County Medical Society held a regular meeting at the Brown Hotel on March 27, 1930. Several matters of vital importance were discussed and at the close of the business meeting, Dr. A. W. Homberger gave a very interesting talk on Madame Currie and the Magic Element.

Mrs. Roland McCormack, Secretary.

PERRY COUNTY LEADS

"Every woman's organization in Hazard, led by the Perry County Medical Auxiliary, has contributed to the Jane Todd Crawford Memorial Fund," reports Mrs. R. L. Collins. The Hazard Herald' of January 16, 1930, carried the story in full and Auxiliary members, Mrs. Geo. M. Adams, Mrs. J. P. Boggs, Mrs. R. L. Collins, Mrs. N. G. Riggins, and Mrs. G. B. Wheeler, have presented the Jane Crawford Project to the following groups whose contributions are listed below:

Perry County Medical Auxiliary	$5.00
Business and Professional Woman's Club	5.00
P. T. A.—Hazard City Schools	5.00
P. T. A.—Lothair Schools	1.00
P. T. A.—Allais Schools	1.00
White Shrine	3.00
Order of Eastern Star	3.00
Baptist Church Auxiliary	2.00
Christian Church Auxiliary	1.50
Methodist Church Auxiliary	2.00
Presbyterian Church Auxiliary	2.00
Total	$30.50

Congratulations are cordially extended to Mrs. Collins and the Perry County Auxiliary. This is good work.

CALLOWAY COUNTY MEETS

The Woman's Auxiliary to the Calloway County Medical Association met Tuesday night, March 23rd, in Murray.

The members joined their husbands, the doctors, at a 6 o'clock dinner in The First National Hotel, after which the women retired to the Club rooms in the hotel and enjoyed a very interesting and profitable program.

The Vice-President, Mrs. E. B. Houston, presided. Brief talks were given on "Why Correct Physical Defect in Children," by Mrs. Rob Mason; "The State Health Department's Efforts to Correct Discovered Defects" by Mrs. B. B. Keys; "The Work of Calloway County Health Unit" by Mrs. J. A. Outland, wife of the County Health Officer. Mrs. J. T. Reddick of Paducah, past State President, was presented and added much to the interest of the meeting.

The Auxiliary made a nice donation to the Jane Todd Crawford Memorial Fund. The members voted to take up the Course of Study on Kentucky Health Laws. This County has been organized very recently. They are, for this reason, just now taking up this Study. They hope to get much of this information into the hands of the citizens of this county.

Several subscriptions for "Hygeia" have been taken. It is the purpose of the Auxiliary to solicit more subscriptions for "Hygeia."

Mrs. E. B. Houston.

THE STUDY COURSE

Auxiliary members will be pleased to see the nine lessons in our Study Course of 1929, revised and printed in the "Club Woman," the official magazine of the Kentucky State Federation of Women's Clubs. These lessons will appear in the April, May and June issues of the magazine.

Have you studied carefully the first installment of the Course sent out by our National Body? Thoughtful consideration of this excellent material is stimulating.

PERRY COUNTY ENTERTAINS

Thursday evening, March 6th, the members of the Perry County Auxiliary entertained their husbands and friends with a banquet at the Presbyterian Church at Hazard. The banquet was enlivened with St. Patrick's Day decorations and many jokes were enjoyed. A delightful program of musical numbers and humorous readings, given by Auxiliary members, followed a brief interesting talk on "Tuberculosis" by Doctor J. P. Boggs.

NEWS ITEMS

Dr. L. Lyne Smith announces the removal of his office to Suite 1019 Heyburn Building, Louisville. Office hours 11 to 1; 4 to 6:30. Telephone: Office, City 634; Residence, Belmont 1277.

Dr. Winston U. Rutledge announces the opening of his office in practice of Dermatology and Syphilology, Louisville. Office hours: 9 to 12:30; 3 to 5 (except Saturday) and by appointment. Room 901, Heyburn Building, Louisville.

Dr. J. Murray Kinsman announces his association with Drs. J. A. and Morris Flexner and the removal of his ofice to Suite 605, Heyburn Building, Louisville. Internal medicine, Electrocardiography. Office hours: 1 to 3 p. m. and by appointment. Telephone: City 706.

THE SOUTHERN MEDICAL SOCIETY AND THE DOCTORS OF KENTUCKY

By R. Alexander Bate, Member of Publicity Committee

Know ye, friends and brethren of Kentucky
Ye are host to gallant guests from Dixie!
Ye are host to Doctors in November:
And the time of greeting and of welcome
Is a gladsome day in fair November;
There shall Blowing Flowers of dear old Dixie
Bloom and brighten kindred of Kentucky.

These are they that clasped hands with the
Douglas,
With the Eves, the Briggs and Hot Spring
Kellars;
Witherspoon, the genial host and teacher;
Gracious Battle, Jelks, Von Ruck and others
Like the men of proud Tulane that tower
To the heights of loved and honored Gorgas
And the stalwart seers of sturdy Texas.

Shout ye then the tydings through Kentucky—
Here at Louisville will gather Dixie
In the russet days of next November.
Earth and welkin wake with wondrous welcome
In the ripening rays of rare November
When the pride of cherished, much loved Dixie
Will be guests of clansmen of Kentucky.

BOOK REVIEWS

THE COLLECTED PAPERS OF THE MAYO CLINIC AND THE MAYO FOUNDATION FOR 1928, Volume XX. Edited by Mrs. M .H. Mellish, Richard M. Hewitt, M. D., and Mildred A. Felker, B. S. Octavo volume of 1197 pages with 288 illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Cloth $13.00 net.

The aim of this annual volume is to bring new aid to the physician at the bedside and to the surgeon in the operating room.

The wide appeal of the current volume is well illustrated by this analysis of the articles. Seventy-one articles of special interest to the surgeon, 63 articles of special interest to the internist, and 62 general articles of interest both to the surgeon and to the practitioner.

To illustrate the very definite appeal of the book to practitioners: There are articles on the diagnosis of gastric ulcer, the nature and treatment of toxemia of intestinal obstruction and ileus, treatment of nephritis, treatment of diabetes, thyroid problems, treatment of neurosyphilis by malaria, ketogenic diet treatment of epilepsy, focal infection in chronic and recurring diseases, preventive medicine . . . to mention only a few articles from which the practitioner will derive practical help. In all, there are 196 articles with 288 illustrations.

CHILD CARE AND TRAINING—By Mrs. Marion L. Faegre and Dr. John L. Anderson. Revised edition published by the University of Minnesota Press, Minneapolis, Minn. Price $2.00.

A book to be highly recommended to parents who wish guidance in child training.

NURSES HANDBOOK OF OBSTETRICS —By Louise Zabriskie. Published by J. B. Lippincott Co. Price $3.00.

A book primarily for nurses but one that physicians will also appreciate. The introduction states "the author from over twenty years of practical experience has selected and presented all the essentials of nursing care and has shown how the nurse can adapt the principles she has learned in the hospital, to the home where she must rely on her own resources to provide the necessary equipment. One of the strongest points in the book lies in the practical applications of the theory presented and in the use of pictures and diagrams as a method of teaching." There are more than 250 illustrations, which are especially valuable to nurses.

CLINICAL ELECTROCARDIOGRAMS—Their Interpretation and Significance. By Fredrick A. Willius, M. D. Section on Cardiology, The Mayo Clinic, Rochester, Minnesota and Associate Professor of Medicine, The Mayo Foundation, University of Minnesota. Quarto of 219 pages with 368 illustrations. Philadelphia and London. W. B. Saunders Company, 1929. Cloth $8.00.

This is a brand new book—a Mayo Clinic Monograph. Dr. Willius, its author, presents electrocardiography in a striking manner. Throughout the book he strives constantly, through illustrative examples, to give practical assistance to those whose experience has been limited. He presents not only typical records of cardiac disorders but also records which exhibit transitional changes.

The entire book is devoted to the reading or interpretation of the records themselves and to their clinical significance. It it not a book on the technic of electrocardiography.

The book is veritably an atlas. There are 368 illustrations in its 219 pages. These illustrations are clearly explained by detailed legends which in themselves comprise a complete text and frequently give the required help without reference to the text. They have been selected from the rich store of clinical material at The Mayo Clinic.

Kentucky Medical Journal
Published Monthly By
THE KENTUCKY MEDICAL JOURNAL
Incorporated

Entered as second class matter October 22 1906, at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price $5.00
Edited Under Supervision of the Council

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COUNTY SOCIETY REPORTS

Central Tri-State: This society composed of physicians from Ohio, West Virginia and Kentucky will have the next meeting at the Hotel Prichard, Huntington, West Virginia, May 15th, 1930, at 2:00 P. M.

Ernest S. Cross, Baltimore, Md.—"Recognition and Management of the Commoner Cardiac Conditions met with by the General Practitioner."

Willis F. Manger, M. D., Philadelphia, Penna. —"The Relation of Sinus Disease to Pulmonary Infection."

Edwin P. Lehman, M. D., University, Virginia —"Our Changing Conception of Gall Bladder Disease."

William Mithoefer, M. D., Cincinnati, Ohio—"Practical Thoughts Concerning the Nasal Sinuses."

Every Kentucky doctor is invited to attend.

JAS. S. KLUMPP, Secretary.

Henderson: On December 9th, 1929, the Henderson County Medical Society met in the office of Drs. White and Griffin at 8 o'clock in regular annual business session. Meeting called to order by Vice-President Dr. G. W. White, the president, Dr. J. U. Ridley, then came in and took the chair.

There were present Drs. J. H. Letcher, W. A. Quinn, Silas Griffin, J. O. Strother, R. E. Smith and Peyton Ligon. Dr. Ligon was called away and Dr. R. E. Smith was appointed to act as secretary for this meeting. The president stated that the object of the meeting was for the purpose of election of officers.

The following named were unanimously elected to serve for the year 1930.

President—Dr. Silas Griffin.
Vice-President—Dr. J. O. Strother.
Secretary and Treasurer—Dr. Peyton Ligon.
Delegate—Dr. R. E. Smith.
Alternate Delegate—Dr. J. U. Ridley.
Censor—Dr. G. W. White.

Motion to adjourn, carried.

Dr. R. E. Smith, Secretary, pro tem.
Reported by Dr. Peyton Ligon,
Secretary.

Ballard: The Ballard County Medical Society and the Woman's Auxiliary held their final meeting of the year at the home of Dr. and Mrs. Titsworth in Bandana. Business meetings were held by both organizations following luncheon at the noon hour.

In the meeting of the medical society, Dr. Titsworth read a paper on "Scarlet Fever" and Dr. Harper of Lovelaceville, gave a discussion on tuberculosis. A round table discussion of the subjects was held following the reading of the papers.

Officers for the coming year were elected as follows: Dr. Titsworth, of Bandana, president; Dr. W. A. Ashbrook, of Gage, vice-president; Dr. G. L. Thompson, Wickliffe, secretary. Dr. J. F. Hahs of La Center was elected delegate to the state meeting with Dr. W. A. Page, Barlow, as the alternate.

The program in the meeting of the Woman's Auxiliary included the first three lessons of a course compiled by the State Board of Health. Miss Florence Hauswald of the Bureau of Maternal and Child Welfare of the State Board of Health, gave an interesting talk.

Those present were: Dr. and Mrs. Page, of Barlow: Dr. and Mrs. Ashbrook, of Gage; Dr. and Mrs. Thompson, Lovelaceville, and Dr. Hahs of LaCenter. The next meeting will be held at the home of Dr. and Mrs. Thompson in Wickliffe in March.

Henderson: Henderson County Medical Society met in called session at the First Presbyterian Church house in this city at 6 o'clock, January 30. The object of the meeting was to meet Dr. Robert Herbst, of Chicago, who read a paper on Prostatic Obstruction. The purpose also was to form a closer fellowship of the physicians of the city and county, and some from our neighboring cities. At 6 o'clock a sumptious dinner was served by ladies of the First Presbyterian church to which the members of this society, and invited guests did ample justice. After the feast, Dr. Herbst read a paper, the title of which has been stated It is needless to say, that the paper reflected the latest knowledge upon this important subject. The paper was discussed by Drs. Hewins, Ehrich, and Wishart, all of Evansville, Ind. A vote of thanks was extended Dr. Herbst, and visiting physicians, for lending their presence to us in this enjoyable occasion.

The following named were guests of members of this society: Dr. W. R. Davidson, Dr. J. F. Wynn, Dr. F. E. Cottingham, Dr. Wm. Ehrich, Dr. A. F. Clements, Dr. W. C. Caldwell, Dr. A. E. Newman, Dr. Shelby Wishart, Dr. W. W. Hewins, all of Evansville; Dr. A. McKinney, Dr. F. J. Hoover, Dr. D. M. Griffith, Dr. W. I. Tyler of Owensboro; Dr. H. B. Stewart, Dr. Joseph Allen, Dr. J. W. Conway, Dr. Graves, all of Morganfield; Dr. O. P. Cottingham, Uniontown; Dr. J. E. Jenkins, Sebree.

Physicians from the city and county were: Drs. J. H. Letcher, G. F. Jones, G. W. White, J. O. Strother, W. S. Galloway, J. C. Tucker, L. Champion, Silas Griffin, W. A. Quinn, Peyton Ligon, R. E. Smith, F. J. McIves, W. V. Neel, E. Cameron, H. F. Clay, C. R. Ganner, J. R. Hodges, and last but not least, Dr. Rutheford Douglas, who is both physician and pastor of the First Presbyterian church of this city.

The fellowship was an enjoyable one, and I think each and every one present will remember with pleasure, the feast and good fellowship.

PEYTON LIGON, Secretary.

Resolutions Passed by the Harlan County Medical Society. A Society Composed of Regular Practicing Physicians of Harlan County

BE IT RESOLVED BY THIS SOCIETY: That the bill introduced in the State Legislature proposing to establish a Medical School in which doctors would be educated at State expense, is unjust to the taxpayers of the State, and unfair to the doctors who have educated themselves at their own expense, and unfair to the medical profession at large because it will lower the high standards which they have so diligently maintained.

1 Records show that there is no scarcity of doctors in Kentucky, except in a few isolated sections where doctors have been unable to make a living by practicing medicine. It would be far better and cheaper for the State to send doctors to those communities then it would to flood Kentucky with doctors of a much lower standard of learning.

(2) We believe the people of Kentucky are receiving better and quicker medical attention today than ever before due to automoblies, good roads. and better medical and surgical facilities.

We, the members of the Harlan County Medical Society unanimously and earnestly urge you to do every thing within your power to defeat this bill.

A copy of this resolutioin is to be spread on the minutes of this society of sixty-five members, and a copy sent to Senator Hiram Brock, one to Representative Virgil Eversole, and one to Dr. A. T. McCormack.

S. H. ROWLAND, President.

Jefferson: The May program of the Jefferson County Medical Society will be as follows:

May 5th

Address —Hay Fever and Allergic Conditions —Dr. Milton B. Cohen, Cleveland, Ohio.

May 19th

Symposium

Recent Developments in the Treatment of Renal Infections.

Relation of Gastro-Intestinal Tract to Renal Infections—Dr. H. J. Farbach.

Pyelitis—Dr. James R. Stites.

Tuberculosis—Dr. Clem Hill.

Perinephritis—Dr. Claude G. Hoffman.

Cortical Infections—Dr. Owsley Grant.

General Discussion.

E. F. HORINE, President.

J. C. BELL, Secretary.

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JUN 1? 1930
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Being the Journal of the Kentucky State Medical Association
Published Monthly under Supervision of the Council
Editorial and Business Office, Corner State and Twelfth Streets. Subscription Price, $5.00 Single Copy, 50 cents
Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 8, 1917, authorized May 25, 1920.

VOL. XXVIII. BOWLING GREEN, KY., JUNE, 1930 No. 6

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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. XXVIII. BOWLING GREEN, KY., JUNE, 1930 No. 6

MEET US AT BOWLING GREEN

Everywhere in the State we find the profession eagerly looking forward to the Bowling Green Meeting.

President Cherry of Western Kentucky Teachers College has informed us that all the members will be housed in one of the beautiful new dormitories that are quite as comfortable as any hotel in the State. Those who prefer hotels, however, will find accomodations down town at the regular rates. None of our members who attended the Richmond session, however, will be away from the dormitories. Every room in the new dormitory has a private bath. The charges will be from $1.00 to $1.50 per person. Delightful meals will be served at reasonable prices at the college cafeteria. There will be ample space for parking your car in the great outdoors that surround the college.

From the hill where the Teachers College is located, the rolling vista of Warren County's beautiful farms unfolds to the foothills. We are going to have a restful, peaceful, home gathering, where we will spend a few days together, thoughtful of the welfare of the physicians and people of Kentucky. Most of the members who are attending are planning to bring their wives to what will unquestionably be the largest meeting the Woman's Auxiliary has yet held. The programs will be complete post-graduate courses.

Arrange to meet us at Bowling Green September 15th through 18th inclusive.

LAW ENFORCEMENT

From several sections of the State rather vitriolic complaints have been received at the offices of the Association because some quack, or patent medicine vender, has appeared in the county and has not been prosecuted by the Association.

Physicians must understand that laws do not enforce themselves. Legal evidence of violation must be secured and it can only be secured locally. Under our system of local self-government, which has long been the pride of the State, the local authorities have charge of prosecution for crime. Under the Medical Practice Act, the local Boards of Health are charged with the responsibility of the arrest and trial of violators of the law. The County Attorney is, by law, required to prosecute the cases in the courts. The State Association and the State Board of Health together, for the past several years, have employed special council to assist the County Attorneys in these prosecutions. For each of the past four years between three hundred and four hundred convictions have been secured. In the very nature of the cases the State officers cannot know about these violations and cannot find the witnesses, although they are common knowledge to the people of the locality in which they occur. We are ready to help any community that needs us.

There is another phase of the matter that the physicians of the counties are entirely responsible for. Some Circuit and County Judges, some Commonwealth and County Attorneys, refuse point-blank to enforce the Medical Practice Act. Such men should be defeated at the polls and can be whenever the profession exercises its powerful influence in this respect. Any law can be enforced if the officers elected for the purpose do their duty. If any fail to do it their successor should be of a different type.

BLUE RIBBON DAY

We have just returned from a trip through Eastern Kentucky where we had the privilege of assisting the County Medical Societies and the County Health Departments in pinning blue ribbons on several thousand children who came up to the standards fixed by joint action of the State Medical Association and the State Board of Health.

It is worthy of note that this year, fifty thousand Kentucky children have received blue ribbons. This means either that their eyes, noses, throats and sinuses, teeth, posture and weight for age conditions were normal or have been corrected to the normal. A careful study in several counties revealed the interesting fact that this has necessitated an average of five trips to the doctors and dentists offices for each of them. More than two hundred thousand other children have also been reached in this campaign and have started toward their corrections in the same way.

Think of what this means in terms of the future of these children. They have been taught, along with other things they are learning, that doctors and dentists are the people who are armed with the scientific knowledge necessary to preserve their health and lives. The cults that will be devised by quacks in the future will find an army of citizens who have been taught faith in science and who will refuse to be misled.

We must realize that we are just at the beginning; more children were vaccinated last year for smallpox and more children are being vaccinated this year for smallpox than any decade in the last century. More typhoid and diphtheria immunization have been done in many counties than in the entire State previous to 1927. Within a twelve months' period more immunizations for scarlet fever have been administered in Kentucky than any other state in the Union. Two-thirds of these immunizations have been done by the family physicians in their offices. School children and the indigent adults, where they were actually exposed to the disease, have been immunized by the Health Department. As these children, protected from diseases, have gone back home, they are breaking down the reserve of our adult population to immunization. They are teaching them what scientific medicine is. Our people are learning out of the mouths of babes.

The Medical Profession of Kentucky has made no greater contribution to the citizens of the State than in the inauguration and successful maintenance of the Blue Ribbon Campaign. This is but one of the instances of the proud record of our profession to our Commonwealth. This year twenty thousand more are receiving prenatal care. Nearly half of the doctors of the State have sent in to the State Board of Health pregnant women who might receive the prenatal literature that teaches them their dependence on scientific medicine. The reduction of the maternal mortality rate, 35% in eight years, is the outstanding achievement of any medical profession in the world in this line. Kentuckians have always been proud of their women and they are now beginning to take care of them.

Armed with these facts physicians can go before the people of the State with a proper pride in their achievements and can easily maintain the leadership that has so long been bestowed upon us in matters pertaining to scientific medicine and Public Health.

FIVE LECTURE STUDY COURSE OF THE SOCIAL HYGIENE ASSOCIATION OF KENTUCKY

The Social Hygiene Association of Kentucky has completed details for the Five Lecture Study Course on the subject of Community Social Health and Parent Education, and the first course will probably be given in Ashland during the next few weeks.

This study course, which will be under the direct supervision of Mrs. Charles E. Dunn, President of the Social Hygiene Association, will embrace every phase of social hygiene and will consist of five lectures covering the program of the Kentucky organization, namely, Education, Recreation, Medical and Repressive Measures. Each of these subjects will be handled by persons of authority. The course will also include motion picture, card and poster exhibits and the free distribution of literature. A Reading Course on the subject will also be available.

It is planned to give two of these courses each month until every county in the state desiring this form of education, has been reached. There will be no charge and the only requirment will be the earnest, active co-operation and support of the community in which the course is given.

For further information address Miss Margaret Flynn, Executive Secretary, Social Hygiene Association of Kentucky, State Board of Health, 532 West Main Street, Louisville.

THE POST GRADUATE COURSE

The Kentucky State Medical Association again offers to the physicians of our state a Post Graduate Course, beginning Monday, July 7, extending to Saturday, July 19.

There will be a departure from the regular schedule, which will greatly improve the value of the course. There will be three divisions, medical, surgical and specialist, all going on at the same time, with an option of taking any one of the three.

A luncheon will be given at Waverly Hill Sanitarium and The Children's Free Hospital

Dr. P. F. Barbour, of Louisville, will be the director and full details with the complete schedule will be published in the next JOURNAL.

ORIGINAL ARTICLES

MATERNAL MORTALITY IN KENTUCKY IN 1927*

By FRANCES ROTHERT, M. D., Louisville.

In the autumn of 1926 the Kentucky State Medical Association requested that the State Board of Health make a study of deaths in the State due to causes connected with pregnancy and childbirth. The Louisville Obstetrical Society passed a resolution making a similar request. With the help of the United States Children's Bureau the survey was begun early in 1927. The method has been to study all deaths that would be assigned, according to the International Classification of Causes of Death (which is used by the United States Bureau of the Census), to the group called "The Puerperal State." According to this classification only those deaths are included in which pregnancy or confinement is the only, or decisive, cause. Copies of the certificates of these deaths were obtained from the Division of Vital Statistics of the State Board of Health as they came in, month by month; and the physicians who had signed them were interviewed personally. From these physicians were obtained case histories of all the women whose deaths were thus recorded. The interviewers were frequently referred to some other physician who had been on the case before the one who signed the death certificate, and to hospital records. If a midwife had been the attendant at birth, she was usually visited. The response of the physicians was magnificent; all gave generously of their time and of their confidence.

A few of the findings from a preliminary analysis of the 1927 deaths are presented today. The 1928 deaths are also being studied, and a much more comprehensive report on the maternal deaths for the two years will be given later. It was not found possible to study the 1929 deaths.

Kentucky had in 1927 the enviable position of having the next to the lowest maternal mortality rate among all the States. The rate in 1927 was 49 deaths of mothers for every 10,000 live births, a drop from a rate of 53 for the preceding year, whereas the maternal mortality rate for the whole United States with registration area was 65 per 10,000 live births. This decline is certainly a matter for great gratification to the physicians and other health workers of the State. Preliminary results of this study indicate, however, that the maternal mortality rate in Kentucky could still be greatly reduced.

The deaths of 308 women were assigned to puerperal causes in 1927. After the physicians had been interviewed, four cases were excluded as the additional information, if it had been given on the death certificate, would have caused the death to be assigned to some other classification. Some deaths were discovered for which the cause was undoubtedly puerperal, but which were assigned to some other classification because pregnancy or childbirth was not mentioned on the death certificate; but these cases were not included in the study, as it would have been impossible to get a complete list of them.

The numbers of deaths from the various causes, as given on the death certificates and as given on interview, are shown in Table I. The changes made largely counterbalance each other, though there was a greater movement from the less specific to the more specific causes of death.

TABLE I.—MATERNAL MORTALITY IN KENTUCKY 1927

Cause of death*	Women who died from causes connected with childbirth	
	As given on death certificate	As given after interview*
	Number	Number
Total	308	304
Accidents of pregnancy	26	32
Puerperal hemorrhage	25	22
Accidents of labor	39	34
Puerperal septicemia	135	136
Puerperal phlegmasia alba dolens, embolus, sudden death	5	4
Puerperal albuminuria and convulsions	77	75
Puerperal diseases of the breast	1	1

*Four cases were excluded as non-puerperal.

There were, in all, 45 changes in the cause of death. This is in addition to those certificates that were changed after query by the bureau of vital statistics. In 10 of these cases, including 2 cases that had no physician, the original death certificate was signed by some other person than the physician who attended at death. In a few cases the physicians had, after the patient's death, found out something that led them to change their diagnosis; in others a sketchy diagnosis was given because the physician apparently did not realize that a more complete one would be useful; in other instances the fact that the local registrar or the undertaker had signed the physician's name to the certificate, perhaps after misunderstood telephonic communication, led to faulty certification.

The maternal mortality rate for the colored women was 109 per 10,000 live births; this was more than twice as high as that for the white women, which was 45. However, there were only 43 deaths of colored mothers in the State in 1927, so that the total rate was raised only 4 per 10,000 live births by the high colored rate.

These 43 deaths are too few to permit of any general conclusions. Puerperal septicemia caused nearly two-thirds of them. Only 4 of the colored women who died were known to have had any prenatal care, and only one of these received care that could be called even fair.

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*Read before the Kentucky State Medical Association at Louisville, October 21-24, 1929.

TABLE II.—MATERNAL MORTALITY IN KENTUCKY: 1927

Cause of death	Women who died from causes connected with childbirth					
	Total		Urban		Rural	
	Number	Pct. Dist'n	Number	Pct. Dist'n	Number	Pct. Dist'n
Total	304	100	71	100	233	100
Accidents of pregnancy	22	7	8	11	14	6
Puerperal hemorrhage	32	11	4	6	28	12
Accidents of labor	34	11	10	14	24	10
Puerperal septicemia	136	45	34	48	102	44
Puerperal albuminuria and convulsions	4	1	1	1	3	1
Puerperal phlegmasia alba dolens, embolus, sddden death	75	25	14	20	61	26
Puerperal diseases of the breast	1	—	—	—	1	—

The maternal mortality rate in the urban districts was 62 per 10,000 live births, while the rural rate was 47. The term "urban" includes all cities with 10,000 or more inhabitants; the term "rural," includes the smaller towns and cities of less than 10,000. The numbers of deaths and their distribution by causes are shown in Table II. Nineteen of the 71 urban deaths are of women from rural Kentucky or from other States who died in hospitals in the cities. If these deaths of nonresidents were deducted from the urban deaths, the urban rate would be somewhat less than that for the State as a whole. As some residents of Kentucky may have died in other States, it is impossible to give an exact statement on this subject. However, the conclusion that the true maternal mortality rate for the cities of Kentucky is not higher than for the rural districts seems justified.

The chief differences between the distribution by causes of the urban and rural deaths are the higher percentage of deaths from puerperal septicemia in the cities, and the higher percentages of deaths from puerperal hemorrhage and puerperal albuminuria and convulsions in the rural districts. The latter is probably to be expected, especially in consideration of the fact that a larger proportion of the rural mothers died without having had prenatal care.

It is generally agreed that through prenatal care the physician is able to surround pregnancy and childbirth with many safeguards that would otherwise be impossible. It was of particular interest, then, to find out how many of these 304 women had that advantage.

The deaths following induced abortions and those cases in which pregnancy terminated before the third month were excluded from the group studied on this matter, for in these cases prenatal care could not be expected. There were other cases in which no information on prenatal care could be obtained. It is safe to assume that most of the women in these two groups had no prenatal care.

Of the 227 applicable cases on which there was a report on prenatal care, nearly two-thirds (65 per cent) had none whatever. The care received by the 80 women who had some medical supervision during their pregnancy may be divided into three grades, as folllows:

Grade Ia: Those who had prenatal care as described in Standards of Prenatal Care (Children's Bureau Publication No. 153). This is the only grade that can be considered adequate. It may be summarized as follows: The physician at the first visit should take and record a careful history, medical, surgical, gynecological, and obstetrical. He should make a complete physical examination, including the examination of heart, lungs, and abdomen; pelvic measurements, both internal and external; and the taking of blood for a Wassermann reaction. Minute instructions in the hygiene of pregnancy should be given. The patient should be examined by a physician at least once a month during the first six months, then oftener as indicated, preferably every week in the last four weeks. (For the purposes of this study the first visit is allowed to take place during the second month.) At each visit to the physician the patient's general condition must be investigated, blood pressure taken and recorded, urinalysis done, pulse and temperature recorded, and the weight of the patient taken if possible. Abdominal examination should be made at each visit and the height of the fundus determined at each examination.

Only 2 of the women of Kentucky who received this grade of care died from puerperal causes in 1927.

Grade I: Those who had, first, a general physical examination, including examination of heart, lungs, and abdomen; second, pelvic measurements, external and internal, except in pregnancies terminating before the eighth month and for multiparae who have had a previous normal delivery; third, regular monthly visits to physician beginning with or before the fifth month, with examination of urine and blood pressure at each visit.

Twelve women who received this grade of care died. These 12 and the 2 having care of grade Ia will be grouped together for statistical purposes and called grade I.

Grade II: Those who had, first, a general physical examination, including examination of heart, lungs, and abdomen; and, second, regular monthly visits to physicians beginning not later than the seventh month, with examination of urine and blood pressure at each visit.

Ten women who died of puerperal causes

had received this grade of prenatal care.

Grade III: Those who had some prenatal care, but not enough to meet the requirements of grade II. In some few cases it consisted of a single visit, in which no complete physical examination was made; or of urinalyses without visits; in other cases the care was of good quality but of short duration, beginning in the eighth or ninth month.

Fifty-six women (70 per cent) of those who were classified as having prenatal care had this very small amount of care.

TABLE III.—MATERNAL MORTALITY IN KENTUCKY 1927

	Women who died from causes connected with childbirth		
Grade of prenatal care	Total	Urban	Rural
Total	304	71	233
Prenatal care reported	227	48	179
Grade 1	14	7	7
a	2	2	—
b	12	5	7
Grade 2	10	3	7
Grade 3	56	21	35
None	147	17	130
Prenatal care not reported	36	14	22
Inapplicable*	41	9	32

*Self-induced and criminal abortions and cases where pregnancy terminated before 3rd month.

For only 5 of the 80 women who died after having received some prenatal care was a Wassermann test reported. Nine were reported to have had pelvic measurements taken,but only 6 were known to have had both internal and external measurements. A little more than half of the 80 were known to have had their blood pressure tested at least once during their pregnancy. Only half of these 80 women first visited their physician in or before the fifth month, so that the physicians had the opportunity of giving grade I. care to only this proportion. Of these 40 women, 14 received grade I. care, 4 grade II. care, and 22 grade III. care From table III. it will be seen that a larger proportion of rural than of urban mothers who died, did not have prenatal care.

Not quite two-fifth (37 per cent) of the 304 pregnancies ending fatally for the mother resulted in the birth of a living child. In another fifth the outcome was stillbirth. Among the remaining two-fifths there were 80 abortions; that is, dead-born issue of less than seven months' gestation, and 11 cases of ectopic gestation; and 27 women died undelivered.

Of the 80 abortions, 32 were induced, in addition to 6 therapeutic abortions. 28 were spontaneous, and of 14 the type was not reported. Curettage was reported as part of the treatment in 24 cases. Eighteen of the women who died following abortions are known to have had fever at the time of their curettage.

Of the 201 patients who died after completing a period of gestation of 7 months or more, nearly half (95) were known to have had some obstetrical operation. Caesarean section was done in 17 cases, in 6 of which it followed an attempt at another form of operative delivery. Forceps were used in 38 cases. In 11 of these, forceps were used in combination with some other obstetrical operation. Podalic version was done in 33 cases, in 15 of which it was combined with some other obstetrical operation.

Of the 97 women who died following an obstetrical operation and for whom there was a report on prenatal care, more than half (55) had no care, nearly a third (31) had grade III. care, 5 had grade II. care, and only 6 had grade I. care.

The type of attendant at birth was studied in connection with the 201 deaths at 7 months' gestation or later. A physician (in one case an interne) attended 162 of these women. In 11 cases, however, he followed a midwife, and in 3 cases some other nonmedical person. A midwife was the sole attendant in 24 cases, and there was some other nonmedical attendant in 4 cases. Five women were unattended, and for 6 cases no report on attendant at birth could be obtained. In other words, 33 of the 201 deaths were of women who are known to have gone through their delivery—or had died undelivered—at 7 months' gestation or later, without the services of a physician.

Of the total number of 304 women who died from causes connected with pregnancy and childbirth in Kentucky in 1927, 14 had no medical attention during their pregnancy, confinement, or puerperium, and 33 received medical attention for the first time when they were dying.

Many of the deaths were of women who lived in places that were not readily accessible to a physician. Fifty-eight of the 304 women who died were known to have lived more than 10 miles from a physician. Thirty-five of these had the additional barrier of poor roads—and by that is meant what the country doctor would call poor roads—usually impassable to automobiles.

One-third of the women who died had been hospitalized. Hospitalization was greatest in Louisville, where more than three-fourths died in hospitals, or were delivered in them, and diminished in general with the size of the cities. One-tenth of the mothers who died in places of less than 2,500 inhabitants had been in hospitals. Only about half of the women who died in hospitals were delivered there, and of these only 5 were reported as having planned hospital deliveries. The puerperal deaths in hospitals, then, were largely of women who had been delivered, or who had aborted, before admission to the hospital, or who came to the hospital for delivery in cases of emergency.

Forty-five per cent of all the puerperal deaths were due to puerperal septicemia, which was by far the largest single cause of deaths in the group. It was of particular interest to discover that more than two-fifths of these deaths from septicemia followed abortions, at least half of which had been induced, so that at least one-fifth of the women who died from puerperal septicemia were potentially infected from this cause alone before they received medical attention.

Seventy-five deaths from sepsis followed deliveries at 7 months' gestation or later. In only two of these cases—one a Caesarean section and one a high-forceps delivery—was aseptic technique reported to have been used throughout the labor. It is true that in 10 cases the physician who actually delivered the patient used a technique in which every precaution was taken to secure asepsis, but in 7 instances these physicians had been preceded by some other physician and in one, by a midwife who had had opportunity to infect the patient. In 6 other cases an attempt had been made to secure asepsis but under conditions that rendered it unlikely. In 35 of these deliveries at which a physician was the attendant, the delivery was conducted with a technique in which there was ordinary cleanliness, though not asepsis; but in 6 cases there was no preparation of the patient nor of the physician's hands.

Thirteen mothers who died of sepsis after reaching the seventh month of gestation, had some other attendant than a physician at delivery.

In conclusion, this study shows that although the maternal mortality rate in Kentucky was low in comparison with other States in 1927, it can probably be brought much lower.

From the point of view of the public-health worker it may be said that there is still a great deal to be done in acquainting women with the need of seeing their physicians early in pregnancy. The physicians will then have the opportunity to give prenatal care; to make an early diagnosis of abnormalities; to watch for danger signals; and to plan the delivery; and they will have opportunity also to teach the pregnant women to get such supplies, and to make such preparations, that aseptic conditions may be possible at the delivery.

From the point of view of the practicing physician, it is hoped that these figures will also be helpful and suggestive so that we can all work together to make pregnancy and childbirth as safe as possible for the mothers of Kentucky.

DISCUSSION

Edward Speidel, Louisville: It is manifestly impossible to discuss this voluminous report intelligently. From the reading alone it is not possible to grasp its importance. Like all of you, I am certainly looking forward to the publication of this report in order that I may digest the individual features.

The most important thing to bear in mind is that every practicing physician who does obstetrics in this state is credited with having had his share of the brilliant result obtained. I think we should all pat ourselves on our backs and feel pleased that our work has accomplished something of that kind, and it should lead us to even greater endeavors in the future.

For myself, I can only say that I grasped some of the things that were brought out, but I really look forward to the publication of this report for further elucidation. (Applause).

S. P. Oldham, Owensboro: I am of the opinion that there are three outstanding features in this very interesting and educational paper of Dr. Rothert: First, the knowledge of the fact that Kentucky stands next to the lowest in the maternal mortality rates; second, the difference of percentages of maternal mortality in the urban and rural districts,—puerperal septicemia predominating in the urban districts with puerperal hemorrhage, albuminuria and convulsions predominating in rural districts; third, the high percentage of women throughout the state who receive no prenatal care at all. Certainly it is gratifying to the General Practitioner, and Obstetrician as well, to realize the fact that Kentucky stands second to lowest of all the states. Yet after hearing Dr. Rothert's paper, we are convinced that much is still to be done, much should be done, and much can be done in the reduction of maternal mortality rate in the state of Kentucky.

The next most striking thing in this paper to me, is the difference of percentage in the urban districts and the rural districts as regards puerperal septicemia. We see from the chart that puerperal septicemia in the urban districts out reaches that of the rural districts.

I think that can be explained. Some few cases which originated in the country were brought to the city hospitals and treated, yet this number is small. Still we would wonder why such could be, because in the urban districts they receive more prenatal care. The doctors are more careful of asepsis, more careful about their technic; yet withal the percentage is higher than in the country. We can only explain that in this way: the majority of women living in the urban districts do not have the advantage of the sunshine and air and as a result, have not the immunity that the women in the rural districts have.

Third, the most unfortunate of all, is the high percentage of women in the country who receive no prenatal care, whatsoever. This, to my mind, is very deplorable. I think the General Practitioner and the Obstetrician should resolve to co-operate with the State Board of Health in impressing upon the uneducated women in the rural districts the great value of this prenatal care which they do not seem to appreciate and which they so justly deserve. Let us resolve in our hearts that in the next few years we as General Practitioners and Obstetricians, do everything in our power to co-operate and work in harmony with the State Board of Health so this care may be brought to the women, and maternal mortality reduced. This can be done.

Let us hope in the next year that we may have a report again from this department stating that Kentucky stands at the head of the list. (Applause).

R. L. Woodward, Hopkinsville: I have been impressed during this whole meeting with the timeliness and importance of the subjects discussed. It has been a wonderful meeting. Things have been discussed that we meet every day. I have thought each one was the most important, but after hearing Dr. Rothert's paper and report, I am convinced that this is the most important.

This is the beginning of one life and frequently the ending of another. Ending of mother's life means much to the baby if it lives at all.

A paper like Dr. Rothert's cannot be intelligently discussed from the floor. A paper like that requires careful reading, balancing and weighing of the facts before the full import of the paper can be attained.

Several years ago we had a meeting of this kind in this hotel. We had a bare baker's dozen at the meeting. Some of these things we are talking about were discussed at that time. The doctors apparently were not very much interested. After many years attendance at the State Medical Society, this is the largest ending I have ever seen. (Applause). The reason for that is the doctors of Kentucky are making that kind of a record. They are interested, and the doctors of Kentucky who become intensely interested in anything put it over. Gentlemen, it can be done; it has been done. It will be done better in the future. The reason is that we get these reports which are accurate. We know where we are falling down and we remedy that. I am delighted to see such an audience of this kind on the last day, which is attributed to a study of this work, and the work done by the State Board of Health through its agents.

Several things in the paper stand out as of more importance than others. One of them is the fewer number of women who died who have had prenatal care. There is no question that prenatal care will very materially reduce this mortality, and the more we have of that kind of care, both private and public, the less our mortality will be.

I want to commend the Board of Health, and Dr. Rothert particularly for bringing this kind of a paper before a body of men who I know are interested and are doing their best and are going to find out how to do better in the future. (Applause).

H. A. Davidson, Louisville: Mr. President and Gentlemen: As a member of the Louisville Obstetrical Society, I want to second what Dr. Pickett said in stating that we were unanimous in endorsing the beginning of this work. We believed much good would come from it, and already much good has come from it, as you see today.

What are some of the lessons that we may learn from such a report? Of course this work was taken up to get the facts. Without a knowledge of the facts we could not do much about the troubles which we knew existed in our state, as well as in all states of the Union. Now we have the facts. Some of those facts stand out very prominently. For instance, in the country women do not get prenatal care. Therefore, the thing, to be remedied, is for the country doctor and for laymen and lay women of the country to be educated up to the point where they must have this prenatal care. It must be taught them that prenatal care is just as important as the obstetric delivery and as the postpartum care.

I believe the obstetric delivery is a surgical maneuver. I have believed that and taught that for many years. Prenatal care is medical, preeminently, but the delivery itself is surgical and should be taught as a surgical maneuver, and all surgical precautions should be taken.

I believe all obstetric cases should be delivered in the hospital. You may think that is rather radical, but if you get the statistics from some of our western states, San Francisco for instance, you will find they show eighty per cent of the women are delivered in the hospitals. Several years ago, we found that here in Louisville, only eighteen per cent of the women are delivered in hospitals. That should be reversed. We should have nearly eighty to ninety per cent of our women delivered in hospitals, for it is only in the hospital that you can get surgical asepsis. The doctor brought out that point.

Asepsis is the thing that is essential at obstetric delivery. You cannot get that in the home, I don't care whether it is a country or a city home. We have more germs in the city, we know, but you have plenty of them in the country. You can only have an aseptic delivery in a hospital with all surgical precautions.

I believe when the laymen and the lay women are taught that obstetric delivery is a surgical maneuver, and should be so treated, and that the prenatal care is very important if they want healthy children, then we will get better results. We already have better results than some of our sister states show, but there is still great room for improvement. If we can educate the people along these two main lines, I am sure we will have a greater reduction in the future than we have had in the past.

I wish to thank the doctor for her valuable paper. (Applause).

J. L. Jones, Louisville: A few years ago it was my privilege to make a brief study in connection with the age incidence of infant mortality. Statistics were gathered from various states and cities of this country and also from numerous other countries. These statistics were all very uniform in showing that of the entire infant mortality, over twenty per cent of it occurs during the first day, about thirty-five per cent during the first week, and upwards of fifty per cent during the first month.

The causes of infant mortality were next considered. These were listed under four main groups: First, infectious diseases; second, gastro-intestinal disturbances; third, a group which is designated as congenital causes for lack of a better term and which included general debility, prematurity, developmental anomalies, accidents at birth, etc., and a fourth group designated as all other causes.

Again all statistics were most uniform in showing that of the total infant mortality, about twenty-five per cent was due to infectious diseases, a little over tweny-five per cent to gastro-intestinal disease, upwards of forty per cent to the so-called congenital causes and a little less than ten per cent to all other causes. A study of these causes over a series of years showed that while there had been a markd downward trend of infant deaths from infectious diseases, gastro-intestinal distubances and all other causes, the trend for congenital causes had remained stationary. This indicated that the reduction in our infant mortality rate which has been effected quite generallly during the last ten years was quite independent of this last group of causes.

Continuing this study a little further it was learned that upwards of eighty per cent of all infant deaths under one month, which contributed fifty per cent of the total infant mortality as mentioned above, was due to the so-called congenital causes. Thus it was shown that the reduction in infant mortality, which has been observed, occurred very largely after the first month and was due to a reduction of infant deaths from the causes listed above other than congenital.

In the light of these findings it is evident that our chief problem in connection with the further reduction of our infant mortality rate depends to a large degree on the reduction of infant deaths from the so-called congenital causes.

In this connection the question naturally arose—to what extent is this possible? A consideration of certain studies that had been carried out by various hospitals and insurance companies showed that practically all of the congenital causes of infant mortality were referable to obstetrical practice and the results of these studies indicated that sixty per cent of the deaths from these causes were preventable by better prenatal and post-natal care.

I mention this study to indicate the role of obstetrics in connection with the further reduction of our infant mortality.

G. G. Thornton, Lebanon: Mr. Chairman, Ladies and Gentlemen of the Kentucky State Medical Society: I represent the practitioner who delivers, I presume, about 58,000 of the 60,000 babies in Kentucky in a year. Guessing that 2,000 of them are delivered in the hospitals, I would say that about 58,000 of them are not delivered in the hospitals.

I want to say for this report that it was pretty tolerably thorough, almost complete. I would have felt perfectly satisfied to have one more little thing in it, so far as I can see, and that is when it gave the maternal mortality if it had just given the names of the doctors who were so unfortunate as to have those 308 cases we would know where to begin the work.

I have either had better luck or my cases have had better scientific management than some of the doctors in Kentucky during 1927 because if everybody had had as good luck as I had, and all the cases had had as good scientific management as I gave them, Kentucky would not have stood next to the bottom or next to the top, but would have stood absolutely perfect. (Applause).

I furthermore want to say to you that for twenty-seven years I have not had a single death from puerperal septicemia. I practice in the country where the gentleman told you obstetrics was a surgical procedure. He also told you that you couldn't have asepsis, but some way, some how, with the exception of two cases of septicemia (I have only seen two cases in twenty-seven years and both of those cases, I am happy to report to you were cured; somebody must have fallen down on the scientific management or had bad luck to have Kentucky stand even second), my cases have all come through in fine shape.

I make a motion that the next report show who these doctors who have lost these cases are so that we can have these doctors most of whom I am persuaded, live in the city, where they can have asepsis and therefore ought to have ideal results. (Applause).

B. K. Menefee, Covington: Mr. President, Ladies and Gentlemen: I hesitated very much to take part in this discussion, but one thing has happened that forces me into it, and that is the fact that practically all of the discussion that has taken place after the reading of this paper has been by city men. I am one of those country doctors who recently had to move from the country to the city in order to retain my country practice. (Laughter).

I am very sorry that thing occurred because up until the time I moved to the city—and I will give $1000 to any man who will prove this statement is not true—in thirty-eight years of practice I had not had a single death from any cause connected with obstetrics or with abortion; not a single death, and I have had an ordinary obstetric practice. (Applause).

I wish the next legislature that passes a Kentucky law woud compel every doctor who is licensed to practice medicine in Kentucky to read that classical essay of Holmes on Puerperal Infection. He was the first man to point out the cause of this, as I understand it.

Another reason for my success, as one of my colleagues said, was due to the fact that the good Lord was with me. He said, "You don't know anything but the Lord is with you in your cases." (Laughter). That may be true.

Another thing right there while I think of it. I have often thought this mysef, but in a recent meeting of the Kentucky Nurses' Association of our city of Covington, Dr. C. L. Bonfield, of Cincinnati, made the statement that he hoped a law would be passed soon that no doctor would be allowed to practice medicine, and no nurse allowed to enter the nursing profession, until he or she had read Holmes' celebrated essay on "Homeopathy and kindred Delusions."

I want to advise every doctor who hasn't read that wonderful thing to get it. It is hard to obtain but you can get it through Stewart, Kidd and Co., of Cincinnati, and I would read it over and over again.

There is one other point I want to give as having a part in my success. When I was a student in the Louisville Medical College in 1893 the immortal Cartledge taught me the best obstetric teaching I had. He said, "If you will be clean you won't have sepsis." I have taken care of obstetrical cases in every sort of condition. I have gone to places where they didn't even have a basin to wash your hands, but I scared up something. As soon as you are thoroughly clean, some good old grandmother will pick up a towel that the farmers have been using and say, "Here, doctor, is a towel."

"No, thank you, I don't need one." After my preparation is made, I have my hand in the lysol or bichloride solution and I don't touch anything but the woman. I believe we do as good obstetrics in the country as in the city. Practically all of my cases, until I moved to the city, have been done in the home.

If you will allow me, I should like to tell you of the cause of death in a mother I had. It was the saddest thing I had in my practice. I had hoped to get through without ever having a death but in this particular instance I had taken care of this little woman on two occasions before without a single symptom of any sort. On the occasion of this birth, I was called to the home. The sun had never shown on this street, let alone in the home. It was the dirtiest, filthiest place I ever saw. The woman had little or no trouble in the labor, but two children had a well defined case of impetigo contagiosa. I didn't think anything particular about that. On the third day this woman developed an acute septicemia. She was taken to the hospital. I called in all my colleagues, all those whom I thought might be able to help me, but she died.

One of those painstaking Dutchmen down there, a good friend of mine, attempted to find out the cause of the death, and he said that somewhere in the literature he found that impetigo contagiosa was a bad thing in the obstetical room, and that the virulence of the infection of impetigo contagiosa didn't go well with obstetrics. (Applause).

P. C. Sanders, Danville: This thing is becoming very interesting, men, to me and I arise to make just two points that haven't been mentioned.

I have thoroughly enjoyed the discussions and the statistics, but it does occur to me that in this day and age we can help reduce maternal mortality most from these two simple facts than anything else: One is rubber gloves which cost twenty-nine cents per pair, and there isn't a home in Kentucky that hasn't facilities for boiling rubber gloves.

I do hope the next legislature will pass a law takng any doctor's license from him in the state of Kentucky who attempts to deliver a baby without rubber gloves on his hands to start with. They are very cheap. If you are afraid you will not have time to boil them after you get there, it is a pretty good idea to have some sterile rubber gloves in your bag.

Another thing, and that is we have altogether too frequent examinations of mothers at the bedside. After you make one examination and find that the parts are presenting like they should, sit by and watch until you know you are needed at the bedside again. In that way we will reduce this maternal mortality a great deal.

Is my eighteen years of practice, I want to say that I have never been called in consultation to assist in the delivery of a baby but twice where the man who had charge of it, had rubber gloves on at all. That is a pretty sad commentary on the doctors of Kentucky. I don't know how they are where you live, but that is how I find them. I tell you fellows, it is time we were waking up and getting a pair of rubber gloves in our bags. (Applause).

A. T. McCormack, Louisville: I am like Dr. Menefee. I had to move to the city to retain my country practice. When the State Board of Health was moved up here, they moved me among the other furniture.

But I am interested in the practice of obstetrics, more interested in it today than I ever was. The first paper I had the privilege of reading before this organization in 1902 was on the practice of obstetrics. There was no hospital within forty miles of me. I had been practicing for five or six years, and I had almost gotten to the point where I did not think there could be a normal labor. I was too young then to have charge of normal cases and was only called in consultation on the difficult ones. It gave me a number of things to think about that I tried to put before this organization at that time.

It is a delight to hear this study read today as contrasted with the discussion of my paper of that time. Through Dr. Speidel's kindness in asking about it the other day, I had the privilege of reading it over and reading the discussion of the professors of obstetrics and the teachers of obstetrics of that day and time. That was a very short time ago. Dr. Speidel, who was born a progressive, stated that when I had made the suggestion that every woman who had a lacerated perineum ought to have it repaired immediately, and every woman who had a lacerated cervix ought to have it investigated and repaired immediately if necessary, he was the only man present who had ever seen a cervix following labor back in that day and time. All deliveries were done behind the curtain, and it wasn't raised at all. It was a sort of holy-of-holies affair that kept people from knowing what was happening, and most of those who discussed the paper said that the perineum ought not be repaired until months later. Quite a number of those present, when I urged that there should be prenatal care, wanted to know how it was going to be possible to find out that a woman was pregnant until she had started her labor pains. He had never heard of such a thing. Unfortunately this is too frequently the case, yet.

What I want to say in this discussion to the doctors of the state is that, we have a means today of educating our women if you will take advantage of it. Write the State Board of Health and give us a list of your pregnant woman as soon as you know it or as soon as you are suspicious (laughter) and we will send them the prenatal letters or send the letters to you and you can deliver them to them from your office telling them month by month about their progress and about what you are doing in regard to their prenatal care.

I am glad the women's organizations are represented here this afternoon because they are active participants in this matter. I am particularly glad that the Executive Board of the Women's Auxiliary is present because I want the Auxiliary to take it as one of their special charges to see that the young women of Kentucky are educated as to the necessity of prenatal care, and for scientific medical care when they are being delivered.

I do not think there need be any acrimonious discussion between those of you who have the privilege as I did of practicing in the country, and those of you who have the difficulty of practicing in the city. The burden on the city man is very considerable. From long experience, I have always known that the country doctor's life is the happiest, the hardest and the finest life in the world, bar none, and I feel sorry for any man in the practice of medicine who has not the privilege of practicing with the close friendships, the fine love and affection he gets from the sort of people that we live amongst and that we learn to love, and they learn to love and have confidence in us in the smaller communities.

Every single one of us is doing the best he can, and it would not be proper for a moment to say that the man who loses a patient should be branded because he loses the patient. The only doctor who ever loses a patient who is pregnant, and who ought to be labeled and stigmatized and ought to have the brand of Cain printed on his forehead is the man who commits a criminal abortion. (Applause). That is one of the great causes of death.

Until we have gone before our people and made every one of them realize that in that Great Day when we stand before the Bar of Judgment the blood of innocents will drip from the fingers of every man who has ever committed a criminal abortion, and every woman who has necessitated such a delivery will be similarly marked, then, and not until then, will we free ourselves and our people of the greatest crime being committed amongst us today. We have got to create the public opinion that will stigmatize that thing as murder before we have accomplished one of the great purposes that is before us. The greatest cause of obstetrical death is the kind of sepsis that follows the kind of murder there committed, and that is our biggest job in the reduction of maternal mortality.

There is one other thing I want to say before I sit down, and that is that under the Kentucky law the drops of silver nitrate must be put in the eyes of every newborn baby. These drops are provided free by the State Board of Health. We send them to any doctor, any midwife in the state who asks for them. If those drops are not put in the eyes and infection occurs, and a malpractice suit is brought, this Association has gone on record as saying it not only refuses to defend such a suit for malpractice, but will assist in its prosecution, because we know that the man wno fails to protect a baby's eyes at delivery—I do not care who the mother or father is—is responsible for blindness in that case if it ensues. For that reason, the medical profession of Kentucky will assist in the prosecution of such a man.

If, unhappily, in spite of the use of the prophylactic drugs, infection occurs, remember it is the doctor's duty to notify immediately, which means telephone or telegraph, under the law—not under any rule or regulation, the State Health Officer that this infection in the eyes has occurred and ask for all the aid the state can give in order to prevent the blindness of that baby. And, have that done immediately. We want you to understand that, and are ready to assist in every possible way in helping in so desperate a situation. A baby's eye sight is precious not only to the baby but to the state and the state must protect the helpless baby to retain that treasure.

I should like to talk about a personal experience in obstetrics. I should like to talk about many of the other problems that have been raised, but let us go back home thoughtful of this invoice of our work, so ably given us by Dr. Rothert. Let us remember it carefully and prayerfully. Let each one of us, as Dr Menefee has done, ask the Presence of the Great Physician whenever we are in holy attendance upon the delivery of a new life into the world. With God's help, if each one of us will do his part, and help the women to do theirs, we will continue day by day and year by year to make this record better, and that is what the medical profession of Kentucky is determined to do in every single, solitary problem that confronts it. (Applause).

Frances Rothert, Louisville, (in closing): I wish to thank all of the doctors very much for their discussion.

In response to Dr. Pickett's question about the treatment of the abortions, the only data I have now is the surgical treatment of abortions. There were eighty deaths following abortions in this series. Of those, thirty-seven had some operation, and thirty-seven had no operation, and we don't know whether six had operation or not. Of the thirty-seven that did have an operation, six were therapeutic abortion cases. In addition to that there were twenty-one curettages. Of those, one had, in addition to the curettage, a blood transfusion, and one had a posterior calpotomy. One had packing of the uterus. Eighteen had only a curettage. There were four laparotomies for drainage in peritonitis. Three had packing of the uterus or cervix, one had blood transfusion alone, and there were two other incisions for infections.

Undulaant (Malta) Fever—A method of concentration by agglutination with specific serum was applied by Harold L. Amos and Mary A. Poston, Baltimore (Journal A. M. A., July 20, 1929), to isolate Brucella from the stools and parallel cultures by this method and by the usual planting on eosinmethylene blue (methylthionine chloride-U. S. P.) plates resulted in the recovery of the organisms from twenty daily consecutive specimens of stools by the former method and completely negative results by the latter.

SYMPOSIUM ON OBSTETRICS

RELIEF OF PAIN DURING LABOR*

By L. C. Redmon, M. D., Lexington.

In presenting this very interesting subject to you, I find that time will only permit mention of the different methods used; it will be impossible to go into the technique of administration, but this is not necessary as you will find the detail of each in the recent literature.

From time immemorial attempts have been made to overcome or in a measure alleviate the agony incident to childbirth. Narcotic potions were administered by the ancients; both the Bible and the Talmud mention these practices, many agents and devious methods were employed—fumes from gases, weird incantations—the external and internal application of drugs—many strange concoctions, pressure on blood vessels, mesmerism and hypnotism have all played their part in the evolution of anesthesia. Modern anesthesia was not known to the world until after a successful demonstration of ether by Morton in 1846 and one of the first uses it was put to was to relieve the pain of childbirth. Sir James Y. Simpson used it and being not entirely satisfied sought a substitute and to him we are indebted for the discovery of chloroform .In spite of the opposition of the clergy and the laity common sense prevailed and chloroform and ether today are almost universally used for special conditons and certain stages of labor. Very little advance was made until 1880 when Klikowitch of St. Petersburg, suggested an 80% admixture of oxygen and nitrous oxide for obstetrical purposes and this is about the admixture used today for analgesia. In 1911 Guedel strongly advocated this method in normal labor and it is now generally employed.

The above is a brief resume of the history of anesthesia as it pertains to obstetrical practice, most of the information being obtained from Dr. Lee's textbook.

Now the different methods as they appeared with comments:

(1) Chloroform and Ether: These have already been discussed. Ether is an excellent and safe general anesthetic for all operative procedure.

Chloroform, condemned by many authorities, is yet used by many good practitioners. I, personally, still use chloroform for a light first stage anesthesia, under my personal control generally administered by a nurse who will give it as I direct, but never as a general anesthetic over any period of time. So far no fatalities or definite damage has been observed in something over 3000 cases.

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*Read before the Kentucky State Medical Society, Louisville, October 21-24, 1929.

(II.) Morphine Scopolamine — Twilight Sleep: Morphine and Scopalomine were first used in 1902—Kronig & Guass introduced it into the United States, reporting 3000 cases in paper read in Chicago. This method was called "Twilight Sleep" and was taken up and exploited by the lay magazines, such as the Ladies Home Journal, etc., which caused a great demand on the part of our patients for some definite method of relieving the pain of labor. Having had no experience with this method I quote from Dr. Barton C. Hirst. He said after a visit to Frieberg, that "Twilight Sleep" was 90% suggestion and 10% analgesia—there were too many post-partum hemorrhages and too many asphyxiated babies. His opinion was that the women in the Frieberg Clinic were so over-awed that they were afraid to admit pain. Sollman states—"The use of scopolamine-morphine is justified—if at all—only in specially equipped institutions and not in private practice, or even in ordinary hospitals." This method has in turn been praised and condemned and is today practically abandoned except in specially constructed sanitaria.

(III.) Nitrous-Oxid Analgesia. In 1913 Lynch and Hoag employed Nitrous-Oxid Analgesia in normal cases administered through a suitable apparatus for the proper administration with oxygen or air. This is a very satisfactory method for analgesia and is administered during the latter part of the first stage and the second stage, two or three hours being usually sufficient. The dose can be controlled absolutely by the anesthetist and only the required amount necessary for effect given. Labor is not delayed, in fact it is shortened, pains are more effectual—the child is not asphyxiated and thrives as usual. Our experience with nitrous-oxid analgesia has been since 1918 comprising some 1500 cases, and is used practically as a routine in all cases, except selected cases for other methods.

(IV.) Synergistic Methods of Analgesia: On February 10, 1923 Dr. James T. Gwathney and Associates at the New York Lying In Hospital, began experimenting to develop analgesia by Synergistic Methods. I quote from their first article published October, 1923.

"The development of painless labor by synergistic methods was undertaken from a purely scientific and altruistic viewpoint. It was decided that the method should be so simple that it could be used either in the home, hospital, by any physician and in an entirely empirical manner. The ideal sought was a state of relaxation and analgesia with consciousness, but little, if at all impaired, so that full co-operation might be had at all times. After many experiments they published a series of a few over one hundred cases with the definite conclusion (1) that labor is not delayed and that contractions continued regularly in 98% of the cases; (2) that the baby is not affected; (3) ether administered to the mother by the colon is safer from the baby's standpoint than is sufficient morphine to produce the same effect."

Since then these experiments have been continued and after 10,000 cases, their conclusions were as follows:

(1) The method is safe.

(2) Pain is relieved in some measure in over 90% of the cases.

(3) Labor is not delayed.

(4) Posterior positions rotate in about the same proportion as without medication.

(5) The baby is usually born crying.

(6) Delivery with forceps is decreased.

(7) Postpartum contraction of the uterus is good and finally, that with their present technique chance is eliminated. The instillation is rarely expelled and the final result depends upon the experience with the method and the judgment of the obstetrician.

Briefly, the technique is as follows:

When labor is well on its way and pains are 4 to 7 minutes apart and lasting 30 seconds or more the first hypodermic is given of morphine grs. 1-6 in 2 cc 50% solution of Magnesium Sulphate, repeating the Magnesium Sulphate as often as necessary. If the first hypodermic has a marked sedative effect the instillation may be delayed, or it may be given in 30 min. The instillation consists of 2½ oz. of ether, with 10 grs. of Quinine Hydrobromide in drs 2 of alcohol and olive oil enough to make 4 oz. mixture. This is given as any other retention enema and slowly, with patient on her left side and with rectal tube well above the presenting part. As a rule the effect will be noticed within fifteen minutes and the patient will become quiet and sleep. This effect will last about 4 hrs. and can be repeated if necessary. Labor will continue, pain is relieved with memory of what has happened either clouded or definitely obliterated. Of course there are many modifications of this method and I refer you to the article of Dr. Gwathney and Associates as published in the American Journal of Obstetrics and Gynecology. It was my pleasure and good fortune to see this method used by them in 1924 at the New York Lying In Hospital. I came home very enthusiastic about it and used it almost as a routine for several months. My results bore out their claims after I became more experienced in the technique. I do not use it as routine now, but in selected cases, that is slow primiparous labor with rigid os, or persistent O. P. position and I am sure that it has been responsible for several cases coming to spontaneous rotation and normal delivery that would not have otherwise done so. It was possible to prolong these labors by relieving the pain. I do not think it is indicated in rapid multiparous labor, much preferring nitrous oxid analgesia, in this type of case.

(V.) Spinal Anesthesia—Caudal Anesthesia, etc. Recently Pitkin published an article on Spinal Anesthesia in Obstetrics using a heavy solution of novocain. I have had no experience with any type of spinal anesthesia and the method in obstetrical practice is too new for any definite reports to be obtained. In a recent Journal the statement was made that this method of use was not practiced except in well equipped maternities. There are some here who have had experience with this method and we would like their opinion during the discussion.

(VI.) Sodium Amytal. In the September issue of American Journal of Obs. & Gyn., Robbins, McCallum and others of Indianapolis report the use of Sodium Iso-amyl-Ethyl-Barbiturate (Sod. Amytal) in 100 cases of labor, normal and otherwise. It may be administered orally, intravenously or intramuscularly. The deductions are that it (1) Is rapid in action and has a wide range of safe dosage; (2) No evidence of harm to mother; (3) Labor is probably not delayed; (4) Labor may be rendered practically painless; (5) Obstetrical operations easily carried out under ordinary anesthesia; (6) Danger to baby has not been proven; (7) Prompt and complete control of eclamptic convulsions; (8) Can be and is used as a general anesthetic.

The drug is not yet on the market and what its future will be remains to be determined.

Ethylene is an excellent anesthetic and is used for analgesia. Dr. Lee and others report satisfactory results. My experience with it has been limited to general anesthesia.

Conclusion

Our routine is as follows:

In normal primipara after labor is well established and pain is severe, morphine sulphate in magnesium sulphate—to be followed if labor is prolonged by rigid os or persistent post-position with ether instillations as outlined by Gwathney. If labor is not prolonged—nitrous oxid analgesia beginning at the latter part of first stage.

For normal multipara, nitrous analgesia.

For rapid multipara, chloroform in its primary stage to control contraction and relieve pain.

For all operative procedure general anesthetic of ether, nitrous oxid or ethylene.

No one method can be set upon as a routine for all cases. All methods are good and should be used as the conditions warrant. Careful consideration of analgesia and anesthesia should be given by all obstetricians, as we believe that the relief of the pain of labor, thus preventing exhaustion and shock, is a potent factor in lowering the too high mortality rate that now exists in obsetrical practice.

INTRACRANIAL HEMORRHAGE OF THE NEW BORN*

By P. F. Barbour, M. D., Louisville.

Hemorrhage into the brain at birth is a large factor in the high mortality of the first month of life. When it fails to cause death it frequently does irreparable damage to the soft structures of the brain and mental defect or degeneracies result which are worse than death. It is only in very recent years that the attention of practitioners has been adequately aroused to the menace and anything like systematic study and attention given to this matter. It is not only the pediatrist or the obstetrician that is concerned but every one that is responsible for the safety and the sanity of the coming child.

In the study of mortality statistics we find there is an almost irreducible minimum beginning in prenatal existence. Modern obstetrics has marvelously attacked this problem and has progressed far in the exact studies of the influence of the mother's acquired and inherited physical qualities upon the baby's expectancy.

Heredity and environment, exercise and food values, emotional states and diseases do have an important bearing upon the expected baby. The problem has only been approached. Its solution will require the combined efforts of many collateral investigations.

Statistics as to the frequency of intracranial hemorrhage are necessarily indefinite. When autopsies have been held on children dying within two weeks from birth hemorrhage has caused the death in from one-third to over one-half the cases (Intracranial Hemorrhage of the Newborn: In relation to the Hemorrhagic Diathesis. B. P. Burpee, M. D., Boston Medical and Surgical Journal, Vol. 107, 31 p. 1449). There are undoubtably many cases of hemorrhage which are undiagnosed and some which do not die and where hemorrhage was not even suspected. Roberts has reported a series of spinal punctures in 450 consecutive births with interesting results. (Intracranial Hemorrhage in the New

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*Read before the Kentucky State Medical Association, Louisville, October 21-24, 1929.

Born, by M. Hines Roberts, M. D., The Southern Medical Journal, Vol 20, No. 8, pp 642-644) Fourteen per cent showed intracranial hemorrhage but the proportion in full time labors was 11% while in premature cases it was 32 %. Normal delivery showed 12% while forceps deliveries showed 62% in a relatively small number of cases and 35% in abnormal deliveries.

The greatest factor in the production of intracranial hemorrhage is trauma but constitutional states must also be taken into account.

There has been some question as to whether hemorrhage was due to actual trauma of a prolonged labor or to the asphyxia which accompanied it. The majority of observers however believe that the severity and the difficulty of the labor are the main agents in causation. The tentorium and the falx are attached at definite points and are strengthened at critical points by well developed bands but in spite of this molding of the head, with the unusual stress upon these membranes, is almost bound to produce lacerations and such lacerations when near the vein of Galen or the lateral sinuses will produce hemorrhage. The signs of the hemorrhage will be quantitative. The larger vessels producing marked and rapidly increasing symptoms whilst a tear in the more bloodless sections of the tentorium may cause a tardy and only slowly increasing stupor.

The experience of the obstetrician must guide him as to how long nature may be trusted. Knowing that long continued unprogressive pains, slow and inadequate molding of the head, delay at the lower strait, all increase the chance of tears either of the dura or the small vessels which are unsupported by firm tissues, unduly stressed by overriding sutures or compressed or torn by fractures. Too precipitate labor may also be harmful. But forceps improperly applied, breech presentations and the other obstetrical abnormalities have produced their quota of hemorrhages and deaths. De Lees particularly inveighs against pituitrin.

Hemorrhagic disease of the new born which is a distinct entity explains some of these hemorrhages even in the absence of any definite lesion. The number of such cases is relatively small and the etiology of the disease is not well understood. Some day we shall be able to recognize in the mother the early symptoms and be prepared to prevent its occurrence. It is definitely not a calcium deficiency but apparently due to lack of prothrombin but it is not evident why there is that lack. Syphilis and other dyscrasia such as the hemophilic diathesis account for a certain proportion of these hemorrhages.

We have no real explanation of the hemorrhages which have been found in babies delivered by Caesarean section. Premature babies are prone to hemorrhages as shown by many statistics. Probably the blood vessel walls in such cases are not properly developed to withstand strain.

Every pediatrician is saddened by the number of abnormals and defectives who have survived the birth trauma and who are beyond help because help was sought too late.

The symptoms of hemorrhage vary somewhat with the location of the hemorrhage. Supra tentorial hemorrhages usually are suggested by the nervous irritability of the child. Dr. Burpee coins the phrase "continual complaint." There will be pallor, bulging of the fontanelle, nystagmus, spasmodic movements of the eyelids, facial muscles or the extremities. Perhaps the most suggestive is the inability to nurse or the loss of normal nursing that has been established. Vomiting also may be severe and the breathing irregular and jerky.

When the hemorrhage is subtentorial, symptoms referable to the medulla are present and especially the centers of deglutition, respiration and circulation are affected. Stupor amounting almost to coma is alarming. When there is a gradual oozing of blood in the cranial cavity these signs will become progressively worse. The pupillary and other reflexes are not well developed and too much reliance should not be placed upon them.

Munro in "Cranial and Intracranial Damage in the Newborn" (Surg., Gynec., and Obst., Vol. XLII, p 622) lists the common symptoms in this order:

Important symptoms:
- Poor cry,
- Hypertonic
- Cyanosis
- Would not nurse
- Tense fontanelle
- Apathetic
- Abnormal respiration.

Symptoms in 10 to 25 cases·
- Flaccidity
- Birth asphyxia
- External hemorrhage
- Irritable central nervous system
- Nystagmus
- Cranial nerve involvement
- Pallor
- Jaundice
- Dryness
- Cephalhematoma.

Hemorrhage may occur into the lateral ventricles or may be punctate in the cortical or subortical area. It should be emphasized here that there are other types of damage to the brain from the birth injury such as oedema of the brain, fracture of the skull, lacerations of the brain, etc., which are accompanied by similar symptoms which may be difficult of differentiation and our concept of birth injuries should be widened to include them also.

Spinal puncture is not only of diagnostic but also of therapeutic value. The needle should be introduced at a somewhat higher level in babies as the spinal cord does not extend down as low as in older children. If the spinal fluid is under great pressure it should be allowed to drain slowly until the pressure is reduced, having in mind that herniation of the medulla with resultant sudden death may result from the loss of spinal fluid. If the fluid is distinctly bloody or under much pressure, spinal puncture may be repeated in 6, 12, or 24 hours in accordance with the symptoms. If the puncture should prove to be a dry tap puncture of the cisterna magna may be tried. This is not especially difficult but should be done only with accurate anatomical knowledge so as to prevent injury to the floor of the fourth ventricle. If the fontanelle is especially elevated and tense the puncture may be made through the anterior fontanelle. Puncture of the lateral ventricles may be a dernier resort.

Whenever hemorrhage has been demonstrated, the possibility of the acute hemorrhagic disease of children should be considered. The pathognomonic symptom is the delayed clotting time and the prolonged bleeding time. It is perhaps just as wise to give an injection of blood into the muscles in any case of hemorrhage, without waiting for any laboratory tests. About 20 cc of whole blood from any donor can be injected into the buttocks. This should be repeated as often as necessary. Typing is unnecessary at that age but intravenous injection is considered inadvisable .

The final results in such cases has been of great interest. Many have appeared to make a complete recovery. Munro reports on findings in cases that had been followed for various periods up to 7 years. Of 58 cases surviving and discharged as relieved, 39 may be classed as cured, some of the others are doubtful. Psychometric analyses of such cases should be recorded when possible to enable us to evaluate accurately the end results. There has not been sufficient follow up work on such cases as to enable us to speak dogmatically upon the ultimate prognosis. There is a very definite tendency toward hydrocephalus and epilepsy and subnormal mentality.

Even with these limitations our effort should be to conserve life, though some still advocate a laissez faire attitude, believing that nature is capable of coping with the exudation of blood. The consensus of opinion however is favorable to early and efficient lumbar puncture with such other definite measures as experience may suggest.

VERSION AND EXTRACTION*

By Carroll C. English, M. D., Louisville.

In determining upon any method of obstetrical interference one must always bear in mind the maternal and fetal morbidity and mortality attendant upon it. Therefore it is very important to determine in each individual case if the operation of version and extraction can be accomplished with a greater degree of safety to mother and child than by other methods of interference.

Version (and hereinafter version shall mean podalic version and extraction) in the hands of the trained obstetrician is as safe as some and safer than other methods of interference commonly practiced today. It has eliminated the application of high forceps on account of the morbidity to the mother and the high morbidity and mortality to the child that follows. In the writer's opinion high forceps has no longer any place in obstetrics.

Cephalic version is of limited usefulness and rarely practiced today for the reason that only occasionally will the head remain in either occipito-anterior position, and that once the hand has been introduced into the uterine cavity under surgical anesthesia there is no increased risk to mother or child, and the mother is saved much suffering and exhaustion by terminating labor quickly by podalic version.

Thus interference resolves itself into essentially three procedures, namely; low forceps, Cesarean section, and podalic version.

Low forceps does not come within the scope of this paper.

Cesarean section is to be mentioned because it is often very difficult to determine without manual examination under anesthesia, which will be safer for both mother and child, version, or Cesarean section. Manual examination, under proper aseptic and antiseptic precautions, does not materially add to the danger of infection following Cesarean section. It must be remembered that in the performance of version the uterine cavity is only invaded from below, and that in the performance of Cesarean section the uterine cavity is invaded, plus trauma to the uterine wall, plus invasion of the peritoneal cavity. Therefore it seems plausible that when version seems at all possible it should be done in preference to Cesarean section.

Version should not be undertaken until the Cervix is fully dilated or easily dilatable. It should not be attempted in a decidedly flat or definitely contracted pelvic; where there is a marked disproportion between the child and the pelvic diameters; in hydrocephalis; Bandl's or retraction ring contracted around the neck or shoulders of the child so firmly that it cannot be ironed out under the administration of morphine and surgical anesthesia. Placenta praevia centralis is also a contraindication to version. In the above conditions Cesarean section is indicated. Version should also never be undertaken after the administration of Pituitrin until the patient has been given a sufficient amount of morphine to secure at least moderate rest and uterine relaxation, otherwise the uterus will be so firmly contracted upon its contents that rotation of the fetus within the uterus will be rendered difficult or dangerous even under surgical anesthesia. There is a difference of opinion as to whether version should be attempted if the presenting part has passed the external os and is firmly engaged in the pelvic canal. It seems to the writer that a cautious attempt is justifiable. One certainly is able to determine whether labor is arrested or retarded by a disproportion between the presenting part and the pelvic canal, or by Bandl's ring that cannot be recognized by external examination. If the presenting part can be lifted up into the uterine cavity, version can in many instances be successfully carried out.

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*Read before the Kentucky State Medical Association, Louisville, October 21-24, 1929.

Version is indicated in transverse positions including shoulder presentations with hand presenting at the vulva; prolapsed cord; face and brow presentations; partial placenta praevia; premature detachment of the placenta; right or left occipito-posterior positions in which the head will not rotate and engage; twin pregnancies with both heads presenting with one head resting upon the other or when any presenting part of either child will not engage, and in an occasional breech presentation when the right or left buttox rests upon the symphysis pubis arresting progress. In eclampsia, and hemorrhage from placenta praevia marginalis, version supplies the readiest and most conservative method of delivery.

Now that I am coming to the method and preparation for performing version I cannot too strongly emphasize the importance of having a trained anesthetist; one who understands not only the degree of anesthesia required but also the maneuvers necessary to expedite the operation. The patient should invariably be under surgical anesthesia before dilatation and version are attempted. Pressure should never be made upon the abdomen —except just enough to steady the uterus as the hand is being passed up to the fundus— until the arms and shoulders are delivered, otherwise the arms may become extended above the head—a very serious complication. External pressure of any consequence is required only for delivery of the after-coming head.

The preparation for version should always be the same as for any major surgical abdominal operation. An enema should be given and the patient catheterized. The external genitalia and internal surfaces of the thighs should be cleanly shaven and thoroughly scrubbed with tincture of green soap. The vaginal canal and cervix should also be well cleansed with green soap. After thoroughly drying with sterile sponges, the entire field, including the vaginal canal and cervix, should be painted with five per cent mercurochrome. This preliminary preparation is best done by a competent nurse or trained assistant, if available. Short sleeved sterile gown and elbow gloves, well lubricated with green soap, facilitate the operation for the reason that the hand and arm meet with much less resistance in their introduction into the vaginal canal and uterus.

The method of version depends upon the individual operator; that is as to which hand will be used for different presentations and the manipulations necessary to accomplish delivery. The writer, in left shoulder presentations, with head resting in the left iliac fossa uses the right hand with the thumb in the axilla and the fingers upon the neck and side of the head, lifting the shoulders and head out of the pelvis and bringing down the feet. The left hand is used under the same conditions if the right shoulder is presenting. In either right or left transverse positions if the hand is at the vulva, it is replaced before version is begun. In all vertex presentations, without exception, the writer uses the right hand to iron out the perineum, vaginal canal, and cervix to complete dilatation, and determining the exact presentation, and as accurately as possible the proportion of the size of the head to the pelvic outlet, always being very careful not to rupture the membranes if they have not previously ruptured. The right hand is then allowed to rest for its employment in the extraction of the after coming head. The left hand is then introduced into the uterus. The presenting part is gently lifted upward and held upward by the right hand on the outside of the mother's abdomen, as the left hand is being extended upward to the fundus in search for the feet. As the hand is being extended upward the position of the cord is ascertained and if it is between the thighs, the feet are separated and it is lifted over the anterior foot. Both feet are then grasped between the thumb, index, and the second finger and brought down to the vulva. It it is impossible to grasp both feet at the same time, one foot is brought down sufficiently low to straighten the leg in the uterine cavity, but never to the vulva; the hand is then again extended upward until the other foot can be grasped and brought down in position with the first. This accomplished, both feet are brought down to the vulva as above described. When the knees appear at the vulva, version is completed and extraction begins. At this stage the anesthesia should be withdrawn to the extent that the expulsive efforts of the mother will aid in extraction.

From the time that the knees appear just within the vulva extraction should be deliberate and without too much haste. Many babies have been lost because of too much anxiety for the child and consequent rapidity with which extraction is attempted. Too much haste in carrying out delivery is apt to cause such severe complications as extention of the arms above the head or extension of both the arms and the head. The obstetrician during extraction should constantly keep in mind the side to which the sacrum and the back of the child present, because upon this depends the manipulations that will make the delivery of the arms and shoulders easy. It is best to deliver the anterior arm and shoulder under the symphysis and rotate the posterior shoulder under the symphysis for delivery to prevent perineal tears unless the arms have become extended above the head, in which case the hand should be passed up posterially and the posterior arm and shoulder delivered over the perineum. The other shoulder and arm can then be delivered anteriorly.

When the shoulders have been delivered, the head is gently rotated so that the occipit will come under the symphysis. The child's body is then lifted upward toward the mother's abdomen, and the index and second finger of the hand introduced into the child's mouth for the purpose of making traction upon the chin, while pressure is applied downward and backward upon the head by the assistant's or anesthetist's hand upon the mother's abdomen. By this means extention of the head is prevented. When the chin and mouth come into view the child will often breathe, so haste is no longer necessary; the head can be delivered slowly, allowing it to dilate the soft parts. The after coming head can be delivered by short forceps, but I have rarely found it necessary.

If the child is slow in breathing and the heart is beating, it should be held up by its feet long enough to allow the mucus to run, or to be stripped, from its nose and mouth, then placed upon its right side, when it will usually breathe of its own accord. If the cord is still pulsating, the child is allowed to breathe before it is cut, otherwise it is cut immediately, so that the child can be more easily handled if it becomes necessary to use any artificial means to establish respiration.

Some operators terminate the third stage of labor by immediate manual extraction of the placenta. It is the writers's practice to administer subcutaneously 1 c. c. of pituitrin immediately after the birth of the child, and in a very short time the placenta is expelled and the uterus will remain firmly contracted for some time afterward, thereby minimizing the loss of blood. The exceptions to this rule, in which the placenta is extracted manually, are postpartum hemorrhage, adherent placenta, and occasionally, in an over fat woman with pendulous abdomen, and in extremely exhausted mothers, where it seems urgent to get the patient to bed and to rest as quickly as possible.

DISCUSSION

S. P. Oldham, Owensboro: Mr. President, Ladies and Gentlemen of the Association: These papers have been very interesting, indeed. In fact, they should be interesting to every Obstetrician and General Practitioner, and we should all feel very well paid for having remained this late in the afternoon to hear them.

As to the efficiency of an anesthetic, I was very glad to hear Dr. Redmon state that every Obstetrician, yes, every man or woman doing general practice or obstetrics should make themselves efficient in any sort of anesthesia. No Obstetrician should be wedded to any particular anesthesia, because there are times when ether, chloroform, nitrous-oxide gas and every other anesthetic would be contra-indicated. There are times when ether would not be indicated in the delivery because of the fact that toxemia already exists in the patient. In this event, we know that ether brings about the same condition in the liver that already exists before the ether was given. The second is morphine and scopolamin which makes a very delightful anesthetic. I give one-eighth of grain of morphine and one one hundred and fiftieth of scopolamin, as an initial dose and repeating scopolamin every hour or two until the second stage of labor, then I resort to other anesthetics. I never attempt to use morphine in the second stage of labor because I think it is dangerous. I use nitrous-oxide quite a good deal. Someone has said that it is prohibitive because of the cost. Others have said that it cannot be used because it cannot be transported from place to place. I have a gas oxygen machine that I take with me when I have a case in the home. It is small and can be transported without any trouble, but there are times when gas oxygen is also contra-indicated.

As to Gwathney's technic, I have used it to some extent. I find it better in the primipara than in the multipara. I think the rectum should be devoid of fissures, ulcers, hemorrhoids and other pathology, because if any of those maladies are present there is quite a bit of discomfort.

Perhaps I may be over-enthusiastic about the caudal anesthesia. We can become cranky about anesthetic. I have tried to be rather conservative in the use of caudal anesthesia, having used it in several hundred cases with no bad effects. Someone has said that caudal anesthesia is not indicated in obstetrics. Some doctor reported thirty cases in which he says fifteen cases were successful and fifteen cases were unsuccessful. That is rather a coincidence.

Before closing, I should like to discuss Dr. English's paper on version and extraction. Time, perhaps, will not permit. I will only mention a few things that we should not do in version and extraction. First, we should never attempt to do an extraction unless we have complete dilation of the cervix. I do not believe that we should attempt version with partial dilation of the cervix. I believe in many instances where we attempt to do a version before we get complete dilation it results in the contraction of Bandl's ring over the head and shoulders.

Version and extraction should be done with thorough asepsis. I was glad to hear Dr. English mention this fact. I use mercurochrome in an ordinary De Vilbis spray. The nurse, with aseptic gloves, opens the vulva and the mercurochrome is spryed into the vaginal canal at intervals until the woman is delivered. And more especially when the head comes to the perineum the spray is advantageously used because we know that the lower vaginal tract is where infection is more liable to occur. Consequently, we use this mercurochrome spray very effectively in the second stage. (Applause)

W. T. McConnell, Louisville: In regard to Dr. Redmon's paper I am awfully glad to have heard a paper on the relief of pain in childbirth. I am sure that if men had the babies there would be a lot more papers read on this subject. As to chloroform I suppose it is the most widely used agent for childbirth pain relief that we have and certainly it has held a place of distinction in times past. If plenty of air is given with chloroform it is a comparatively safe procedure. Instruct the nurse, husband or neighbor to hold the mask sufficiently away from the face so that you don't get concentrated inhalation.

As to the Gwathney analgesia, I think that really offers us a very beneficial adjunct to our work. It is especially valuable in prolonged first stage labor in primapara. We have also found it useful in controlling convulsions in eclampsia,

As to Sodium Amytal, I had the pleasure of seeing some of the experimental work in Indianapolis and feel that it will have a definite place in Obstetrics. We are using it in the city hospital and I am going to ask Dr. Starr to discuss this drug as he has the statistics on our work there.

In regard to Dr. Barbour's paper he covered the ground pretty thoroughly. There are one or two things I would like to stress, one being the value of lumbar puncture in babies having intracranial pressure. Another, the administration of whole blood in these cases as well as the cases of hemophilia.

I have been particularly interested in podalic version for the last few years and thoroughly enjoyed Dr. English's discussion of this subject. I consider podalic version one of the most difficult procedures in obstetrics. It takes a man thoroughly familiar with the technic and one who has mastered the details of the procedure to do this operation successfully. I think the chief watchword in doing a successful version is to secure complete relaxation; relaxation of your birth canal, of the perineum, the uterus and the mother. Nothing short of surgical anesthesia and complete dilation of all parts concerned will suffice. In regard to dealing with the case where the arms are above the head as the body is extracted, my experience is in most breech extractions this complication is encountered. There is one manipulation that Dr. English did not mention but I am sure he employs, and that is the rotation of the body in shoulder extraction. Dr. Potter taught us that and I think it is the most valuable thing he has given us. The technic of this procedure is as follows: After the body has been extracted the posterior shoulder is rotated around to the anterior position, making traction downward and outward. If the shoulder, which is then anterior, does not slip out from under the symphysis and emerge from the vulva, the body is rotated back to the former position again, making traction as previously. If the anterior shoulder is not born then the rotation should be continued back and forth until the scapula appears. This maneuver makes it unnecessary to induce the fingers into the already crowded vagina and is much quicker.

One thing that does the most harm in cases of podalic version and breech extraction is haste. The baby's neck may be broken or other bones fractured, the mother lacerated or other injuries sustained from too much hurry. Much more can be accomplished by intelligent deliberation and many more of these cases brought to a successful termination.

J. G. Owsley, Lily: In the matter of control of pain in the case of labor, there is a thing that I have been very much interested in and it is one of the papers that I thought I was going to hear read during the session of this great meeting, but owing to my honorable job that I have been performing here, I didn't get to hear much of that paper.

I want to tell you, gentlement, I thought I had had some great honors conferred upon me in my time, but I never had a greater honor conferred on me in my life than I had this morning when I was elected by this august body as sergeant-at-arms. This is a job I have been working for all these sixty-three years, and I have now obtained my goal.

There is another thing in regard to that. I want to tell you this is not a baby's job, either. A baby can't work those doors out there. A baby couldn't have managed that crowd over at the Columbia Auditorium last night. There are a thousand things connected with this job that the sergeant-at-arms can't actually do, not in a joke, either, for it is all true.

I make it a point that whatever I undertake to do, I do it with all my heart, let it be whatever it may. I am not joking about this honor. I consider that it is an honor. It is an honor to be president of the Kentucky State Medical Association. It is an honor to be sergeant-at-arms of this great body. If these sessions have been held these many years in a building like this, I don't see how they got along without a sergeant-at-arms. (Laughter).

As to the subject of how to control pain in the case of labor, I want to say to you gentlemen, that this is one of the most important subjects that we have. What are we going to do in regard to making the patient as comfortable as possible?

When I first began to practice medicine, I thought if I were called to a case of labor, especially primipara, and there was possibly no dilatation of the cervix of the uterus, or probably a dilatation you could only insert the finger into, I thought I could go to bed safely and sleep five or six hours before I was disturbed; in fact, I have done that. But, my friends, I want to tell you that any doctor who does that is not standing as close to his post as he ought to, nor as close as I have stood to this old door. (Laughter)

What are we going to do? We should use every effort within our means to make the patient as comfortable as possible and let the case progress. We should not do a thing to throw a block in the way and stop the case of labor and thus prolong it.

I have had patients who had little nagging pains. They didn't seem to have any effect whatever. I have, in some instances, given hypodermically a fourth of a grain of morphine and one hundredth of a grain of atropin in order to give the patient some rest. To my surprise, it would have the reverse effect. The pains would begin to work up and in a little while the patient would be delivered.

I now use chloroform earlier than I used to in suitable cases. The textbooks tell us that we shouldn't use chloroform until the head has passed under the pubic arch. Whenever that is done, we don't have very much use for chloroform. As I said before, I use it much earlier and I have found that I have great success.

There is one more goal I want to reach. I want to see the time when I will know the name and face of every doctor in Kentucky, and I think I am now in a position where I will learn that. (Applause)

S. H. Starr, Louisville: As far as sodium amytal is concerned, in our work at the City Hospital, we have used it in just seven cases so far. Our idea has been to see if we could use it per rectum the same as the synergistic analgesia as used by Gwathney.

So far, our results haven't been very promising, but we feel that probably we aren't using a large enough dose. We hope to give you a better report next year on the value of sodium amytal. If it is successful, it will have an advantage over the ether instillation because it is very much easier to give. You can give a solution of about an ounce, whereas, ether instillation takes a great deal more solution and, also, there is some chance of irritation and inflammation of the rectum.

As far as version and extraction are concerned, I think we should remember that there are certain points that we must consider before we attempt to do a version. As far as having the patient under complete surgical anesthesia, be sure that her bowels and bladder are empty; be sure that the cervix is dilated; be sure that the perineum is ironed out well.

Another thing that must be considered because so many versions must be done at home in emergency, if the patient is at the end of the table or at the end of the bed before this is done it will save a great deal of trouble in the extraction of the shoulders and head. In fact, it is almost impossible where there is a tight fit to do a successful extraction unless we have plenty of room to make downward traction.

As far as bringing the patient out of the anesthetic is concerned after the version is complete, I feel that would be a mistake because we want complete relaxation of our soft parts, of our perineum and vagina just as well during our extraction as when we are doing our version, and I think we can protect the perineum much better and deliver our shoulders much better when we have complete control of the case than when the patient is out of the anesthetic and having contractions.

I should like to speak a word about forceps for the after-coming head. These are Dr. Piper's forceps. I saw him demonstrate these in 1926 for the after-coming head. This happens to be the most suitable forceps to use after the after-coming head, (after extraction of the shoulders. As a matter of fact, any type of forceps can be used. The advantage of this is that usually the head is higher up than when you do an ordinary forceps applications. This has a long shank, and it has a curve to keep the shank away from the perineum. Then when we put the forceps up into the vagina in about this fashion (demonstrating) we are able by raising the forceps up to flex the head, which is the final mechanism in delivery of the after-coming head.

I think we are getting more and more to regard forceps on the after-coming head as being of distinct advantage because when we make pressure on the head or make pressure on the neck we are pressing on the baby's most vulnerable parts, you might say, whereas when we make flexion we aid the normal mechanism and are grasping the baby's head on both sides over the cheeks, which is a point that will harm the baby less.

I wish to emphaize what Dr. McConnell said about the time in doing a version and extraction. Most of the textbooks tell you that after the cord is born you have eight minutes to deliver the baby. We find in our statistics that a great many more breeches are lost because of broken neck or intra-cranial hemorrhage due to pressure. It is a very, very difficult case when you can't do a breech extraction in eight minutes using the most deliberate measures.

I think if that part were cleared up in the textbooks it would save a great many more cases where bad results have been obtained doing breech extraction.

I thank you very much. (Applause).

P. F. Barbour, Louisville, (in closing): I just want to emphasize that when the baby is fretful and restless and crying after birth there is something the matter with it and it deserves a little attention as well as the mother.

Spinal puncture may practically always be used. Whole blood may be injected intramuscularly without going through any of the paraphernalia of typing. (Applause).

C. C. English, Louisville: Mr. President, I have very little to say.

Dr. Oldham stressed the necessity of complete dilatation of the cervex before version is attempted. I emphasized that in my paper. Version should not be undertaken until we have obtained complete dilatation of the perineum, vaginal canal and cervex.

Answering Dr. Pickett on high forceps. By the term high forceps, I mean the application of forceps when the head is at the superior strait. Mid-forceps can be done very nicely, and the low forceps can always be done easily.

Regarding Dr. McConnell's surgical relaxaion, I put that sentence in my paper about letting the patient come out from under the anesthesia for aiding the mother because in looking over the literature I found there was a difference of opinion on this point and I wanted to bring out a discussion and see what the consensus of opinion was. Only in some instances do I let the patient come out sufficiently to have uterine contraction, and then only after version is completed. That does not mean that the patient is out sufficiently to realize anything. It is just that you get more contraction of the uterus. The theory seems right because if you get uterine contraction, the uterus comes down around the child and you do not get extension of the arms and head. The only thing is the loss of time. As Dr. Starr said, eight minutes is a good while if you will be calm about your delivery. Deliberate extraction of the child can be done in considerable less time than eight-minutes in most instances.

With further regard to Dr. McConnell's surgical relaxation, I did not mention in my paper that little trick of rotation of the shoulders, which is a very beautiful maneuver. It aids very decidedly indelivering the shoulders anteriorly because the posterior shoulder comes lower down than the anterior and by rotating the posterior shoulder underneath the symphysis you can deliver it more easily than you can the anterior shoulder, if delivered first.

Dr. Starr mentioned having the patient's hips at the edge of the bed. That is always understood. It would be impossible to do a version, or at least carry out an extraction, unless you have the patient's hips right on the edge of the table or bed, so that you can get directly to the parts so as to do your manipulation properly.

I must say that I have used forceps to the after-coming head very seldom. As a general rule, with deliberate delivery, the hips and the shoulders have completed what little dilatation you have not already done before you started your version, so that delivery of the head by the hooking of the fingers into the mouth, making traction upon the chin, and pressure above backward and downward, will nearly always make the delivery of the after coming head easy. It is the delivery of the shoulders and arms that are difficult. Very rarely do you have any trouble delivering the after-coming head, or is it necessary to make any undue traction upon the head in delivering it. I wish to thank you all for your liberal discussion. (Applause).

Ileus Caused by Mushrooms—Krauss relates the case of a girl, aged 16, who presented symptoms which led to a diagnosis of appendicitis and ileus caused by adhesions. The abdomen was opened immediately. About 30 cm. from the ileocecal valve a mass of agglutinated intestine, the size of a man's fist was diclosed. The mass, with 20 cm. of bowel, was resected. When the bowel was opened, a mass of undigested mushrooms was found. Later the patient admitted having partaken freely of mushrooms.

RECTAL-ANAL REFLEXES*

By J. H. HARRISON, M. D., Owensboro.

Perhaps there is no subject more interesting to the medical profession, or one that invites more profound thought, from a point of diagnosis than that of Reflexes. Surgeons from the various branches, general surgeons, and practitioners as well, are becoming more interested in this very important theme.

The Aurist, Throat specialist, Proctolgist, and G. U. Specialist are continually making discoveries from their several points of view, and we wonder, at times, if he could not be fairly compared to the proverbial blind men who were asked to give a description of the elephant, each giving a description according to part of the anatomy they explored. Yet each was correct to the extent of their knowledge. If we fix the patient complaint to our own line, to the exclusion of all others, our premises may be wrong, our opinion bias and diagnoses erroneous.

To have a reflex act we must have an afferent impression, resulting from traumatism, foreign body, or a pathology. It can not be idiopathic. A reflex manifestation is measured by the distribution of nerves. (Motor and sensor), hence the reason for so marked ano rectal reflexes is accounted for by the very liberal distribution of such nerves to this part. This region gets its supply of nerves from the third and fourth sacral and internal pudic. They exert their effect both through the sympathetic and cerebrospinal system. We may readily see the chance for a marked reflex from any inflammation or pressure affecting this part and by reason of their very close proximity to other pelvic and abdominal organs we may have a distinct impairment of function of the same. We may get a more remote reflex action by the absorption of toxic material through the vascular system, affecting the function of all, or a part of, any of the organs of the body; and so we see, that an ano rectal pathology may very readily produce, either a local or constitutional reflex, or both.

Let us consider for a moment, one of the many diseased conditions of this very important field (Hemorrhoids), which constitute about 30% of the diseases of this region. We have two conditions in hemorrhoids that are conducive to local inflammation, traumatism and infection, the latter is invaribly followed by proctitis or most any other inflammation peculiar to this region. We know that through the reflex from hemorrhoids we may have spastic stricture of the urethra, resulting in retention, cystitis, prostatitis. We may have inflammation impairing the functions of the uterus, tubes and ovaries, most commonly resulting in painful menstration or menorrhagia.

Montague states that there is one class of reflex effects which has been given but little recognition by the general surgeon, and indeed many rectal men. These constitute a group of gastric irritability which are often diagnosed as gastric indigestion. That this condition is more than a coincidence is shown by the marked disappearance of such symptoms after the successful treatment of hemorrhoids; and this despite that medicine given by the mouth had only offered temporary relief. He further states that he has seen cases of suspected gastric ulcer (without the x-ray findings of course) with continued hyperacidity clear up after the successful treatment of piles.

I wish to state here that I have observed but very few cases of hemorrhoids of extreme severity, that did not complain of abdominal and gall bladder pain with more or less gastrointestinal symptoms, the gall bladder pain most always in evidence. Possibly many gall bladders have been sacrificed, when if we had given more thought to a case of piles we would have saved our patient a very trying ordeal and much expense. I am quite sure that the general surgeon and the practitioner fail to attach as much significance to this all important pathology as they should.

We know beyond a doubt that we may have marked constitutional reflex from infected hemorrhoids; we have observed cases of anemia (pernicious) originating from a neglected case of piles. Someone has said that the average blood count of a well developed case of piles is less than 80%. It is true that when a patient has a well developed case of hemorrhoids he is losing more or less blood at each stool, whether he is aware of it or not. Other marked symptoms we may have are, profound depression, mental sluggishness, loss of ambition, and despondency. In these cases we observe rheumatic pain transferred in the cord and posterior ganglion root, and are noticed in the sacroiliac joint and posterior part of the limb, extending to the heel. It is known that a large per cent of sciatica will improve, or recover after clearing the pathology in this field, and many of the most exaggerated nervous reflexes can be traced to inflammation located here.

Tuttle quotes Kelsey as applying the term "rectophobia" to a particular kind of exaggerated reflex, eminating from the ano rectal tract. In this condition we see a patient who regards his anus as a sacred spot and the slightest touch of the anatomy seems to throw the whole nervous system into an extreme state of vibration; such patients are indeed hard to control, and will tax every inch of our psychotherapeutic skill to bring them under subjection, yet the real pathology, as a rule may be very simple. Tuttle states that there is hardly a functional nervous symptom that he has not removed by the proper treatment of hemorrhoids. This may sound like an exaggeration, but experience and observation has proven it true, at least in part.

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*Read before the Daviess County Medical Society.

Let us mention a few of so-called diseases that have been known to subside after establishing a healthy condition in the anorectal tract, sciatica, rheumatism, lumbago, gall bladder pain, Acthma, gastrointestinal derangement, dysmenorrhea, chronic headache, coxalgia, impotancy, prostatitis. Mathew reports three cases of epilepsy cured by divulsion of the sphincter. In order that we may have a reflex, we must have, first, an afferent nerve fiber, second, a transferring center and third an afferent nerve fiber forming a reflex arc. A similar arrangement to this we have in the anorectal field. The nerve supply of the pelvic viscera primarily come from the spinal nerve, all the nerve supply forming the perineum and external organs of generation are given off from the same point in the spinal cord. It is therefore easily seen that the rectum and anus are a great power in the field of reflexes. Hence we see that it is not by any means conclusive that a pain at a given point would locate the pathology; a pain in the anus does not mean that the pathology is there any more than a headache would indicate a cerebral involvement.

I wish to report a case that came under my observation, some time ago. A married woman, age 32, saleslady, gave a history of having had good health up until about six months before consulting me; at this time she began to have more or less constipation and indigestion, pain over the abdomen and in the anus, after stool. She said that she had not been free from backache for almost a year and that she was forced to take to her bed at the time of menstruation. She had constant pain in back of her limbs extending down to the calf. She further stated that her limbs felt that they were paralyzed. She had the characteristic symptoms of rectal reflex that I have mentioned above and was a nervous wreck.

This patient stated that she had visited three Gynecologists in another city and that they advised that she have both ovaries removed, that she had a slight trouble in the rectum which would not amount to much. They never examined her rectum, however.

On examination, the anus was found so sensitive that she would hardly allow me to touch her, but we made out her trouble as rigid sphincter and anal ulcer. I advised that she go to the hospital and under ether have a dilitation done, and such other treatment as would be indicated. This she did the following day. The sphincter was divulced and ulcer excised and aside from anal and rectal inflammation, she had no further pathology. She left the hospital on the second day and on the fourth day came to the office and said that she was feeling perfectly well. She passed her next menstruation with but little trouble and her backache and all nervous symptoms disappeared immediately. She resumed her work within five weeks after the treatment. I had word from her stating that she was normal in every way.

The above case is only one of many that we observe and shows that there is hardly a part of the body that may not be affected or the function of an organ that may not be disturbed, by reason of a pathology in the ano rectal region, and we would call your attention to the supreme importance of being able to differenciate a real pathology from an impaired function, due to reflex disturbances.

INJECTION TREATMENT FOR VARICOSE VEINS*

By F. M. SHERMAN, M. D., Owensboro.

The very thought of injecting directly into the blood stream a destructive solution with the intention of getting a thrombus formation, which is always the parent of an embolus, seems unscientific and certainly nonsurgical. This however is what is done with sclerosing solutions.

But let us first consider what we have to deal with in a varicose vein, and I believe we will see that the venous flow in varicose veins tends to prevent an embolus formation rather than produce one.

Normally, all venous flow is upward both in the superficial and deep veins. The deep veins are supported by the surrounding muscles and the strong facial layers. This prevents their walls giving away and producing varicosities. The muscular contraction of the leg in walking exerts a constricting effort on the veins of the deep system and thereby, with a pump-like action, forces the blood upward in these veins which are equipped with valves to prevent a reverse flow.

The veins of the superficial groups, however, have no support other than their own walls and that of the surrounding fascia which is mostly soft adipose tissue. The fat offers but little support to the vein walls and at times practically disappears. They too are equipped with valves.

The skin, while possessing the turgor of youth does not prevent the veins from dilating in the fatty layers and becoming elongated and tortuous. In later life, even this tonicity of the skin is lost and the veins often become but little more than large saccules of stagnant blood. To aid in the expulsion of blood from these veins, we have the valves plus the aspiratory effect, of the pelvic veins. Between the superficial and the deep sets of veins are the anastomossing communicating veins, they are also equipped with valves facing the direction of the deep circulation. Thus in a normal individual it is possible for the blood to pass from the superficial to the deep, but not ordinary in the reverse direction.

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*Read before the Daviess County Medical Society.

If the Trendelenburg reaction is positive or double, this reverse flow from the deep to the superficial will be possible, whether the primary factor in the etiologyg here is the loss of the valve function, or the injury to the vein wall from infection, thus permitting it to dilate and thereby throw extra stress on the valves in the saphenous veins, is a much debated question.

It is the writer's contention that in all varicose veins, and particularly in those in which the valve action has become deficient either by a primary destructive injury to the valve or secondary to a dilitation to the vein walls. The venous blood is stagnant or flows in a reverse direction.

This phenomena merely demonstrates that the valves of the saphenous vein are incompitent, as in the Trendelenburg positive; or that the valves in both the saphenous and communicating are incompetent in the Trendelenburg double, and further that is known as the Trendelenburg test with Von Perthes' modification. It has been the aim to demonstrate and confirm these findings in the living subject with the aid of the fluroscope. This has been done.

McPheeters has made some experimental work, with the idea of proving or disproving these pathological findings in the living subject, by injecting lipiodol directly into the varicose veins of the thigh and observed the results under the fluroscope. If very clearly demonstrated the opinion that the venous flow in varicose veins was towards the periphery, returning to the general circulation, through the communicating veins into the deep circulation.

He demonstrates his point very clearly by injecting lipiodol in the upper limit of the varicosed saphenous vein, its progress was then observed under the fluoroscope, taking x-ray exposures at various stages. He reports the following case to-wit: Mrs. H. F. aged 40, had large varicose veins extending from her groin to the ankle in a continuous tortuous mass of varicosities. The circulatory test gave a Trendelenburg positive with Von Perthes' modification. The patient being placed upon a fluoroscopic table in a sitting position, with her legs extending horizontally, only a ½ c c of lipiodol was injected into a large loop of vein in the upper third of the thigh, and under fluoroscopic observation as long as the patient remained perfectly quiet, the lipiodol remained in a solid mass about the point of the needle. Then being asked to strain as at stool, producing a definite increase in intra-abdominal pressure. The globules of lipiodol passed downward about 6 inches, relaxation caused no reflux, on further straining scattered the globules and scattered them further peripheralward. One cubic centimeter more was injected and the same procedure produced similar results. Muscular activity of the foot without force caused the particles of lipiodol to pass downward into the veins of the leg and into the communicating veins, where they seem to whirl around in aimless fashion. One particle appeared to be caught in an aneurysmal sack and remained constantly twirling in the same place. Forceful exercise of calf muscles pushing against the resistant hand of the examiner, thus simulating the act of walking, forced the particles into the deep system when they advanced toward the heart with each pump like action of the leg.

During inspiration, the globules in the superficial varicosed saphenous veins were forced toward the periphery about one inch. Those globules in the deep system remained stationary. This was the effect of intra-abdominal pressure upon the valveless saphenous. While expiration with its negative intra-abdominal pressure produced no change in the superficial varicosed saphenous; but due to the aspiratory effect tended to draw the particles centralward from the deep system of veins. But this had no effect upon the particles of lipiodol in the superficial veins.

McPheeters concludes from this and other experiments which he has made upon the living subjects the blood therefore follows the paths of least resistance, passing downward through the communicating into the deep veins, than centralward where the physiological factors are more normal.

He also believes that these experiments demonstrate and confirm the findings of Bernstein, which was obtained through extensive operative work in the surgical treatment of varicose veins to be as follows:

1. In the early cases of varicose veins of the legs, the valves in the saphenous may be competent and there is no reverse flow. In these, there is merely a stagnation of blood. These demonstrate the Trendelenburg nil.

2. In the moderately advanced cases, the valves have become deficient and give way, then we get a Trendelenburg double. It is then we get a reverse flow from both the

superficial and deep system of veins, causing a stagnation of blood in the dependant extremity with a saturation of the tissues by the blood serum. It is this saturation of the tissues that lowers their resistance and makes them so susceptible to infection and later ulcer formation, the dreaded end results of varicose veins.

Therefore, in all varicose veins of the lower extremities, the circulation is either stagnant or reverse, an embolus, if formed from chemically induced thrombus, is forced distally towards the smaller and branching veins, where it would be most certainly arrested. Now that we have considered the pathology with which we have to deal, let us turn our attention to the remedies at our disposal, and their mode of application.

All the various solutions used in the injection treatment of varicose veins, are best grouped according to the classification of C. Siebert and Wreszenski.

Group 1. The salts which absorb waters: Sodium Chloride, calcium chloride, sodium salicylate, and sodium citrate.

Group 2. The halogens: Lugol's solution, Pregl's iodine solution.

Group 3. The alkalies which have very strong cauterizing effect, sodium carbonate solution.

Group 4. The heavy metals: Corrosive sublimate, iron perchloride, mercuric iodide, metaphen.

Group 5. The organic cauterizing agents: Alcohol, dextrose, glucose, calorose, quinine and urethane of all the solutions mentioned classified under group 1—Sodium Chloride 20 per cent solution is the only one which has stood the test of time. This solution is perhaps the least harmful of all solutions used, though the technic of its administration is more exact than any other. If only a small amount is deposited outside of the vein,an intensive paraphlebitis will develop and oftentimes a slough will result, with very great care can be avoided, its use also induces a very great cramp.

But these objections have caused the writer to select other agents, with which it is not necessary ot exercise such metriculous care in their use. It is however safest of all to use as far as the systemic effect is concerned. I have only used the sodium salicylate in 20% to 40% sol. and dextrose 50% solution, in my limited experience in this field, sodium salicylate usually in 20% solution, rarely stronger than 30% solution in most instances I rarely use sodium salicylate stronger than a 20% solution it will produce the sclerosing effect in this strength in most instances provided the varicose vein which you are injecting is pretty well depleted of blood so that the solution comes in contact with the endothelial wall undiluted. This is the great secret of success in any sclerosing solution used is having the varicose vein where used as completely empty as possible when injecting.

Sodium salicylate like sodium chloride produces a cramp like pain over the injected area, which soon passes off. In the use of dextrose 50% solution, I rarely get this cramp in the limb and like sodium chloride it can be used with impunity without fear of getting an over dose.

But I find that I do not get the effect from its use that I do from sodium salicylate, and have to give more injections in order to effect a cure.

Quinine and urethane, I don't doubt is a good preparation, I am told it produces no cramp, is not painful, is effective in small doses. I have never used it, whatever the solution may be of our choice, most of them have their advantages and disadvantages.

The main thing depends upon our technic of the injection.

OUR ARMAMENTARIUM

First let us consider our syringe. In as much as the surgeon must at all times be absolutely positive that the needle point is resting in the lumen of the vein and not in the peri-vascular tissues. He should have syringe by means of which he can inject and aspirate without disturbing his hold on the barrel, or the position of the needle in the vein.

This is best accomplished by having a syringe with two rings on the barrel of the syringe for fingers and one on the plunger for the thumb. This gives him absolute control of his syringe. The needle, use the smallest needle possible for the solution selected for use, about three-quarters to one inch long with a short bevel. This is very important for this type of work with a long bevel is possible to be able to aspirate a particle of blood and yet the needle not be entirely in the lumen of the vein, therefore a portion of our solution goes into the peri vascular tissues, also much easier to puncture the posterior wall, and a portion of the solution goes posterior to the lumen of the vein. The needle should be rustless and sharp, so that it will do as little damage to the vein wall as possible, lest our fluid may seap out into vascular tissue. We must remember in entering a varicose vein we have a different proposition from that of giving an intravenous medication in the latter case we have a tourniquet applied about the arm for the purpose of distending the vein with venous blood flowing back from the extremity. As soon as the vein is entered the tourniquet is removed the positive pressure against the flow of blood is removed and our fluid is injected against the negative pressure, drawing the fluid on toward the heart. Just the opposite condition however, in the injection treatment of varicose veins, our purpose is to bring the injected fluid in as concentrated solution as possible into intimate contact with the endothelium of the blood vessels. The more complete is the destruction of the intima of the vein wall, thus the more empty the varix is at the time of injection, the more concentrated will this solution be. It must be left to the judgement of the operator how this can best be done.

It is far better and less confusing to mark the segments to be treated while the patient is standing, then the patient lies down on a table with the limb supported by an assistant seated on a stool. If the reverse flow is not marked the leg is allowed to hang downward over the end of a table. The assistant elevates or lowers the limb as needed for the effect of gravity to either empty or fill the varicose of the extremity, will vary according to the individual technician. It must be left with each operator as to how to keep the varix most empty and thus off set the Trendelenburg reflux pressure in the vein.

A tourniquet is placed about the extremity at the lower most varix with sufficient tension to obstruct the circulation in the superficial circulation, but not tight enough to obstruct the circulation in the deep system. The leg is elevated now enough to aspirate the blood from these varices and leave the collapsed vein which can be seen as bluish lines under the skin. A second tourniquet is applied with the same precautions as the first about four to six inches above the first, the idea of the tourniquet is to localize the injected fluid to the segment of vein being treated. The veins between the tourniquets are now collapsed and empty yet by having the assistant use pressure with the open hand can milk the blood and force it into one loop and sufficiently distend it that it can be entered with the needle without fear of puncturing the posterior wall, each segment is treated in this manner with just sufficient sclerosing solution to merely distend it. This amount has to be judged by the operator. After the injection of the fluid is made into the vein lumen the operator holds still with his syringe and needle in situation for approximately three to five minutes, so that the solution may get in its corrosive effect on the intima and also if the needle was removed immediately part of the solution might ooze backward through the hole in the vein and produce a paraphlebitis or slough. After the needle is removed a sponge is applied over the wound of the needle, and pressure made and controlled with strips of adhesive. If the operator decides to give further treatment at the one sitting he will apply a third tourniquet about four to six inches above and use the same technic as before until the entire vein is taken care of at one sitting if it be the desire of the patient and operator, personally the writer prefers to make two or even three treatments as there is usually quite a little inflammation in the varicosed vein which has been treated, however the complete operation can be completed at one sitting if deemed advisable by the operator. Immediately after the operation is complete, the entire limb is bandaged with an ace bandage, so as to prevent the refilling of the varices as soon as the patient gets on his feet. With the leg thus bandaged the patient is allowed to go about his work.

On the patient's return on the second day after operation the treated varices are seen to be hard and tender, which soon passes away in a week or so. The patient may return for completions of the operation if there are still more varicosed segments that need to be taken care of at that time. The writer need further add that this operation must be done under strict asepsis and with proper technic followed as layed down in this paper, I believe the operation need not be fraught with danger, and our results will be very gratifying.

Blue-Domed Cyst in Chronic Cystic Mastitis—Joseph Colt Bloodgood, Baltimore (Journal A. M. A., Oct., 5, 1929), asserts that the blue-domed cyst is a definite gross pathologic entity. It cannot be mistaken for, or confused with, any other breast lesion. Clinically, in more than 98 per cent of the cases there are no definite signs of a malignant growth on the part of the skin or the nipple. In the largge majority the palpable tumor is spherical and gives fluctuation, but this does not differentiate it from the cancer cyst and the papillomatous cyst. So far, these blue-domed cyst have transilluminated clear. In a small percentage of the cases the blue-domed cyst is so buried in breast tissue that it cannot be differentiated, on palpation, from any other benign or malignant tumor. Transillumination promises help here. When one makes a frozen section of the wall of a blue-domed cyst, one may see the same histologic pictures which predominate in the difffuse papillary cystadenoma, or the encapsulated or nonencapsulated types o cysticc adenoma. When women report in the early stages of breast lesions, the first difficulty is to find the definite lump for which operation is indicated. The second is to learn how to interpret the fresh frozen section of this lump when it is removed because, if it not cancer, the breast can be seaved. If it is cancer, the complete operation for malignant disease should be done.

BRONCHO-PNEUMONIA IN CHILDREN*

By Clay Crawford, Fort Thomas.

Broncho-pneumonia is the chief cause of death in childhood. Pneumonia in cold weather, diarrhoea in hot—that was the old story. In the prevention of gastro-intestinal diseases there has been a revolutionary change in a few decades. What more can we do to control broncho-pneumonia?

The anatomy and consequently the pathology of the child's bronchi and lungs differ from those of the adult, and these differences are responsible for difficulties in physical examination and diagnosis. The finer bronchi occupy relatively more space and the alveoli relatively less than in the adult, and the vascular system is looser and richer. Swelling of the bronchitis and interstitial tissues, congestion and exudation cause changes both in the percussion note and in the breath sounds. The structures are all more collapsible, due to their being softer and to the fact that the intrapleural negative pressure develops only gradually after birth. This means that atelectasis occurs more easily, giving dullness and altered breathing. Total closure of a bronchus from collapse or plugging interferes with the transmission of physical sign over that section of lung. Partial closure may cause emphysema with hyperresonance. An inflammation, therefore, which does not involve the lung tissue may give equivocal physical signs.

The pathology of actual pneumonia divides itself roughly into three groups. Lobar pneumonia is fairly distinct. Pneumonia by extension may occur directly by way of the bronchioles, giving the usual form of broncho-pneumonia, or it may come under the head of interstitial pneumonia. This is a form emphasized particularly by McCallum and Cole, (1) and found typical in streptococcus hemolyticus infection following measles. Here the inflammation centers around the smaller bronchi and involves the alveoli by lateral extension, as one might say. Practically you have the same variety of physical sign as in the other type.

The diagnosis of broncho-pneumonia can best be taken up as differential diagnosis between it and bronchitis. A well developed case of broncho-pneumonia is usually typical enough. Dullness, bronchial breathing, bronchophony, particularly with crepitant rales, —that problem is settled for the doctor and for the patient. Where our physical examination helps us is when the case is at the border line, and when treatment may determine which way it will progress. Physical signs are sometimes difficult to interpret, but slight changes from the normal are found early and are very significant. Percussion must be very light, and we must be on the alert for beginning alteration in the breath sounds, especially in the length and character of expiration. The abnormal physical signs may be slight or they may be very suggestive of pneumonia. The essential first step is a diagnosis of something wrong deep in the chest.

Symptoms are as important as chest findings. Along with increase in temperature, the pulse-respiration ratio is very significant. The normal ratio of 4:1 is very well preserved in most illnesses not affecting the respiratory system. Nothing is more suggestive of trouble deep in the chest than a ratio changing to 3:1 or 2:1. Prostration and cyanosis may come early. But none of these symptoms are proof that pneumonia has developed. Any or all of them may clear up. The diagnosis is made by the results of treatment.

Capillary bronchitis is another condition for differential diagnosis. Related as it is to the asthmatic bronchitis of children, it is characterized by a constriction of the muscle fibers of the bronchial tree. The symptoms at the onset may be more severe than in broncho-pneumonia, and no signs present but feeble respiration and dry rales. Here again the subsequent course may determine the diagnosis.

Lobar pneumonia usually occurs in the more robust child and is the relatively mild form of pneumonia. Diagnosis is often easy, sometimes difficult. Signs of bronchitis point to broncho-pneumonia. A negative chest points to lobar. The x-ray may be very helpful.

Meningitis must be considered in the cases with central nervous system symptoms at the onset, or meningismus later.

Otitis media is a disease outside the chest which may affect the pulse-respiration ratio considerably. Otitis media plus a bronchitis gives a fairly good clinical picture of broncho-pneumonia. It is important also as a complication, probably coming from the same original head infection

Empyema is to be diagnosed by physical examination, with the paracentesis needle as the final arbiter.

Prevention—where can we start? We can start at birth. Broncho-pneumonia attacks the child in poor general condition, or one with an acute or chronic infection. Prevention includes all that keeps the child at normal, not overlooking cod liver oil, ultra violet rays or viosterol.

These latter are especially needed when chronic infections are present. It is a familiar fact that bronchitis and pneumonia follow upper respiratory infections. Sinus infection is particularly important. In the child who has had recurrent pneumonia, look for an infected sinus. Is there more sinus infection at present than in former years, or are we identifying it better? At any rate, clinical experience and autopsy reports show the frequency of sinus cases with or without local symptoms. The prospect of cure lies as much in increase of general resistance as in local treatment. But prevention of infection is largely a matter of family hygiene. Dr. McCarthy (4) of Cincinnati first called my attention to the fact that sinus infection is usually a family affair. Find a case in a child and you will find another case in a parent or a nurse. Infection, especially repeated infection, with an organism having a tendency to chronicity, results in a chronic sinus in the child. Dr. McCarthy calls attention to the danger of the common wash bowl.

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*Read before the Kentucky State Medical Association, Louisville, October 21-24, 1929.

Prophylaxis of the acute infectious diseases is prophylaxis of broncho-pneumonia. Broncho-pneumonia itself may be put under the general head of contagious diseases. Certainly the cubicle system in children's hospitals is valuable in its prevention.

Yandell Henderson (2) and his associates have done interesting work in the pneumonia following carbon monoxide asphyxia. They have shown by x-ray that atelectasis occurs in these cases, due presumably to prolonged shallow breathing. Keeping the affected side uppermost is helpful in overcoming the atelectasis, and it disappears quickly as a rule when respiration is stimulated by the inhalation of 5% carbon dioxide in air or oxygen. Others have applied this method in the prevention and treatment of post-operative pneumonias, where atelectasis also occurs, and even in post-influenzal pneumonias. The work has been done principally in adults, but would seem applicable to children.

I want to speak particularly of one method of treatment applicable whenever we have a bronchitis with severe symptoms or questionable physical signs. That is strong counter-irritation. It is a method advocated not only by the older men in pediatrics, Kerley, Holt, Abt, but regarded as standard treatment by many of the more recent writers. Yet in most communities it is seldom seen in use.

The reason is evident. Counter-irritation seems a step backward rather than forward in treatment. But we have learned of late years, particularly from the history of cod liver oil therapy, not to deny the value of a treatment which we can not explain.

We have no adequate explanation of the way in which counter-irritation acts, but there are facts of anatomy and physiology which are suggestive, notably those relating to spinal segments (3). The skin is a seat of referred sensations, and probably referred circulatory changes, resulting from disorders of deeper structures. Whether there can be an effect in the reverse direction is an interesting conjecture. When one sees the marked effect which counter-irritation has on chest signs and symptoms, one is forced to the conclusion that some change has occurred in the inflammation within the chest, whether through the circulation or in some other way.

By strong counter-irritation I mean counter-irritation sufficient to produce redness which remains for some time, but not strong enough to cause discomfort or blistering. What counter-irritant is used is not important, but mustard paste usually has been selected because it can be completely removed after it has acted sufficiently. There is nothing heroic about the treatment, if the paste is properly prepared. Children as a rule do not cry unless they are frightened. About two applications of 20 minutes each are needed each day.

Let us take a frequent picture. A small child with bronchitis or with no apparent previous symptoms develops a temperature of 103° or more, pulse in proportion, respiration 60 or 70. The chest shows, in the base of one lung posteriorly, broncho-vesicular breathing and dullness, frequently with a tympanatic note. Counter-irritation is used, along with other treatment and these symptoms and signs disappear, possibly in twenty-four hours. It is true that they may disappear without counter-irritation. The imporant thing is that this is a condition too near a pneumonia to be trusted, and counter-irritation can be depended upon to act promptly. By the time the paste is removed, the respiration usually has dropped twenty points. No such result can be expected when the power of reaction is very low, as when a terminal pneumonia is developing, but most cases of potential pneumonia can be aborted by this treatment.

In the treatment of actual pneumonia as well, there is a place for counter-irritation. In the course of the disease new areas develop. If we can limit the pneumonia to the first areas, we often control its severity. It is not uncommon to see a child with a definite area of consolidation which persists for perhaps a week, yet with little fever and the mildest of symptoms.

No specific treatment for broncho-pneumonia has gained favor in this country, though French and German writers have considerable to say about vaccines and sera. We are not yet able to classify pneumonia on the basis of its bacteriology.

General care of the child is the first consideration. Food must be given in a form suitable for a younger child. Lactic acid milk, protein milk, malt sugar foods, or skimmed milk mixtures for infants. Extra fluids, with alkalies to combat acidosis. Indigestion and especially distension are to be avoided. Tube feeding is sometimes necessary. Control of the cough, if possible, by inhalation or counter-irritation will save the stomach. Like an army, a baby travels on its stomach.

Irradiated ergosterol has been recommended in pneumonia, and those of us who are enthusiastic about irradiated ergosterol will be glad to use it. It is the simplest of treatments. A dose of sunshine should help any child.

Continually fresh, warm air is the ideal of ventilation in bronchc pneumonia. Oxygen is needed in severe cases from the outset. Beginning cyanosis is a positive indication. It is often a good plan to administer it by a mask for about fifteen minutes in every hour.

Hydrotherapy is invaluable, but it is not the hydro-therapy used in the adult. In the older or more robust child tepid sponging or wet packs are useful, but in younger ones, and in all with poor circulation, immersion in water at a temperature one or two degrees above the body temperature is effective both to reduce temperature and improve circulation. In children who are in shock and stuporous, mustard is added to the water to prolong the effect of the heat.

Among stimulants, caffeine leads in favor in this country, with alcohol especially for the asthenic cases. Digitalis and strophanthus, while not so generally useful as in the adult, are needed for cardiac weakness.

Antipyretics are depressing and inferior to hydrotherapy. They may be needed to control symptoms more harmful than the drug.

All measures must be tempered with moderation and good psychological management of the child. He must have rest. A good nurse is worth more than anything else. Some of you may have been at a meeting of the Pediatrics Section of the A. M. A. convention four years ago. There was a symposium on pneumonia. After a half day's discussion Dr. Morse, Professor Emeritus of Pediatrics at Harvard, arose and remarked that we had heard of everything that might de done in pneumonia; the only thing that had been omitted was a word for the child. We must not forget the patient in treating the disease.

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DISCUSSION

James H. Pritchett, Louisville: The subject of pneumonia is always apropos. As the essayist read his paper, it called to mind that wonderful picture most of you have on your walls in your office entitled, "The Doctor" which depicts a child, acutely ill, upon an improvised cot, the mother, her head bowed with grief, and the father standing aside despairingly. The doctor is looking thoughtfully forward, more or less hopeless.

That is exactly the way I feel when I am in front of a case of broncho-penumonia in a child. If we accept the definition of a broncho-pneumonia as laid down by the standard textbooks, as I remember it now, we find it means mechanical obstruction of the pneumonic tissue, plus toxemia, which condition terminates only after a long hard fight

What can we do to help this sick child? As the doctor has so well stated, there have been numerous treatments.

Laennec, the famous clinician of France, when asked what his treatment of pneumonia was, said, "There is no treatment for pneumonia." There is but the treatment of the pneumonia. Every case is a law unto itself. We can do several things, fortunately. Counter irritation by the use of mustard paste is a reliable treatment. I detest and abominate the heavy cotton batting packet, turpentine and lard, goose grease, and so forth. These things can only do what the mustard paste does quickly and cleanly. Of course you would have a hard time making grandma believe that. It is your patient, and the doctor must see to it that the nurse or the mother carries out to the letter, your insructions.

In the first place, I think the most essential point, as the doctor well brought out, in the treatment of pneumonia in childhood is skillful nursing. I think it is generally agreed that drugs play a secondary part and are to be used only as the occasion arises. Merely because the child has broncho-pneumonia, does not mean he needs digitalis or camphor. Remember, the child must fight its way along over a series of days, at the average, two or three weeks. To put drugs into the stomach of a child already upset by mucus and vomiting will only add to its discomfort. The child should have fresh but warm air, skillful nursing and constant attention to little things like keeping the lips clean and moist, plenty of water, and all kinds of fruit juices except pineapple. By the way, these various juices reduce the chance of acidosis.

Pain can be relieved best probably by some form of narcotic, codein in some cases. Opium and morphine, by the way, reduce the cough and give the child a chance to rest.

It used to be the habit to give the patient some medicine every couple of hours: two o'clock, medicine for his fever; at four o'clock, tonic; at six o'clock, cod liver oil; at seven o'clock, buttermilk. The Lord only knows when the child rested.

In other words, long hours of rest giving drugs only when necessary, fresh air, mustard paste. and from time to time in individual cases whisky is of value. There is no question about that in some cases. It is always a good plan to keep idle neighbors out of the room, likewise of course the dog and the cat which are on the bed in some cases. Give a child a chance to recuperate promptly and properly.

In a majority of cases we, as doctors, can only stand by and hope for the best under skilful nursing.

Just one word in regard to the convalescent treatment. As we well know, this condition may occupy three or four weeks. Later on, probably a change of climate if they can afford that, such drugs as a bitter tonic, cod liver oil or, viosterol, and some sort of iron, preferably syrup Ferric iodid will help out a great deal in restoring a child back to normal tone.

Two more things occur to my mind and then I am through, and that is the use of oxygen in those cases which are badly cyanosed. It is a life saver in a great many cases. Another drug which can be used in a great many cases as a life saver also, when there is acute abdominal distention, and many of them do have, is the use of pituitrin hypodermatically for one, two or three doses.

I am indeed glad to have heard this paper. As the Secretary has said, the whole Association could ill afford to miss such a good paper. (Applause).

Clay Crawford, Fort Thomas, (in closing): I want to thank Dr. Pritchett. I am glad he mentioned a number of things: the fact of visitors, the fact of grouping your medicine, having all the rest possible, pituitrin, and the importance of convalescence.

Chest pain is controlled very well, as a rule, by counter irritation. The cough is also controlled by the counter irritation to a large extent. I think I might give a reciepe for the preparation of mustard paste. In making mustard paste, if the mixing is done very thoroughly in the dry state using twenty-five per cent of mustard with an inert substance, such as flour, then adding the water, there will be no blistering and no pain. It is when mustard is concentrated that the irritation results. Nothing else is needed but the mustard, flour and water. The spread should be of moist consistency, and cheesecloth or something with large openings must be used, not a more solid, dense fabric. Mustard paste must lie moist against the skin during the whole application. Over that something is put on as protection, to protect the eyes from the fumes. When good redness is obtained, the mustard is removed quickly and the child is washed with warm water and the skin oiled with any simple grease, olive oil or vaseline. I think we had better go the full length and put on a light flannel jacket, at least on the back where the application is made. The covering should be wool to avoid the chance of chilling the chest, but it can be very thin wool. It might be said that there is objection to wrapping the chest so as to interfere with fresh air treatment, but we are not looking for cold air in mained this late in the afternoon to hear them. this condition. (Applause).

RESUSCITATION OF THE NEW BORN*

By James W. Bruce, M. D., Louisville.

There is no more dramatic situation which the physician has to face than that produced by the new born infant who will not breathe. The long tedious hours of labor are over, anxious relatives have been told whether the baby is a boy or girl, the tension of waiting is broken, when suddenly a new apprehension pervades the room for the baby will not breathe. Driven on by their zeal, realizing the importance to life of each moment of delay, with nerves and brain often fatigued to the point where judgment may not be the best, doctors and nurses have many times resorted to measures of resuscitation which calmer consideration would condemn as dangerous and drastic.

Before discussing the actual methods of resuscitation, let us consider the physiology of respiration and the physiology of the first respiratory movement and the conditions associated with childbirth which may interfere with the proper functioning of the respiratory center.

The activity of the respiratory center is dependent largely upon the concentration of the gases in the blood. The accumulation of CO_2 in venous blood the most potent stimulus. Whether this is due to a specific action of CO_2 on the respiratory center or due to the increase in hydrogen ion concentration of the blood brought about by increase in CO_2 is a disputed point. Howell states that the consensus of opinion is in favor of the latter view. The diminution of oxygen, concentration in the blood is also a stimulant to the respiratory center. However, this is nowhere near as potent a stimulus as the accumulation of CO_2.

The respiratory center is also subject to sensory stimulation of many kinds. We are all familiar with the fact that a person will involuntarily "gasp" in response to strong sensory stimulation. Examples of this are painful trauma applied to the skin, sudden application of extreme heat or cold to the skin, sudden dilatation of the rectum, etc. "Preyer has shown that stimulation of the skin of the fetus while in utero and with the placental circulation intact suffices to cause respiratory movements.'' (1)

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*Read before the Louisville Medico-Chirurgical Society.

During fetal life the respiratory center is in a state of inactivity or apnea. Blood returning from the placenta does not contain sufficient CO_2 to stimulate it to activity. The irritability of the fetal respiratory center is evidently considerably less than that of the maternal center because the same CO_2 concentration stimulates the maternal center and does not stimulate the fetal center.

Shortly after birth takes place the placental circulation is interrupted. The CO_2 concentration in the fetal circulation rises until it reaches a point necessary to stimulate the respiratory center to activity. Also sensory stimulation of the center takes place at the same time due to necessary handling of the infant's body and such other treatment as the obstetrician may employ. The combination of these two forms of stimulation(gaseous and sensory) is usually sufficient to induce respiration.

Unfortunately the respiratory center is not always responsive to these normal physiologic stimuli and respiration of the new born baby is not forthcoming. There are a number of conditions which diminish the sensitivity of the respiratory center. For convenience we may group them under the following headings:

1. Anoxemia. 2. Drugs. 3. Trauma. 4. Prematurity.

Anoxemia may be brought about by any cause which interferes with the placental circulation. The most common of these are: pinching the cord, premature separation of the placenta before the head is born, and tetanus uteri, i. e., tetanic contractions of the uterus, usually the result of pituitrin, which are so powerful as to temporarily shut off the blood supply to the placenta. Anoxemia may also be brought about after birth by anything that interfers with the cardio-respiratory system, such as atelectasis or congenital defect of the heart.

Drugs used during the course of labor may diminish the sensitivity of the respiratory center. Ether chloroform, morphine, etc. come under this head.

Trauma incident to birth causes diminution of sensitivity of the center. The pressure to which the infant's head is subjected during labor causes anemia of the respiratory center. Hemorrhage from traumatic rupture of blood vessels causes increased intracranial pressure which acts on the center. A common finding at necropsy on babies that die of birth trauma is rupture of the tentorium. The loss of this supporting membrane must result in great pressure on the centers located below it. Probably the greatest inhibiting factor is shock due to the long continuous pressure on the head.

The respiratory center of the premature baby is not developed sufficiently to respond to normal respiratory stimuli.

The treatment of apnea of the new born must take into consideration the etiology of the condition. Apnea resulting from anoxemia due to interference with the placental circulation responds to simple artificial respiration. Atelectasis also usually responds to the same thing. Patients afflicted with congenital heart disease need comparatively little outside assistance. If the heart is efficient enough to support life, they can generally "go ahead under their own steam.'' There is great difference of opinion as to the role played by anesthetic and sedative drugs in apnea of the new born. So far as I know, no investigation has been made to determine this point. We certainly smell ether on the infant's breath frequently, and the pinpoint pupils sometimes observed in infants whose mothers have had morphine are suggestive of overdose of the latter. Successful respiration in the premature depends largely upon the post-conceptional age of the baby; the seventh month is the turning point before which few survive and after which many do. Trauma with resulting intracranial pressure due to edema or hemorrhage and shock are the most difficult factors to contend with and are responsible for most of the fatal cases of apnea.

There are three points to be borne in mind before and during attempts at resuscitation:

1. Be sure the pharynx and mouth are clear of mucus, blood, etc. This is safest done by holding the baby by the feet and gently stroking the trachea toward the mouth and aspirating the material from the pharynx with a catheter attached to a glass trap such as is used in proctoclysis. Wiping the material away with the finger may traumatize the delicate mucous membrane especially if a piece of gauze is wrapped around the finger.

3. Keep the baby warm. In their zeal to make the baby breathe doctors and nurses are prone to forget this most important point and the body temperature may recede to dangerous levels in a short time, thus making resuscitation much more difficult or impossible. Body temperature is best maintained by continued application of warmed blankets.

3. Be gentle. Some of the manipulations to which new born babies are subjected would test the durability of a rubber doll. Autopsies on babies who die during the first few days of life often show abdominal hemorrhages especially about the suprarenals which may be due to the forcible flexion of the thighs against the abdomen. Also rupture of

the lungs may result from forced mouth to mouth breathing. Intracranial hemorrhage and shock are made much worse by any but the gentlest manoeuvers.

Some form of artificial respiration is always necessary. The gentlest method is manual compression of the lateral walls of the chest with the infant lying either on its face or back. The great temptation is to work too fast,—10 to 12 respirations a minute is the optimum number. Another favorite method is mouth to mouth breathing. This has been done for centuries and is a very efficient method. Some of the exhaled air goes from the operator's mouth through the infant's larynx into its respiratory tract where it is absorbed and helps set the respiratory apparatus in action. A large part of this exhaled air goes into the infant's stomach and the sudden distension of that viscus acts as a strong sensory stimulus to the respiratory center similar to the effect gotten by dilatation of the rectum. The disadvantage of mouth to mouth breathing are that the operator may have an upper respiratory infection or he may blow too hard and cause damage to the lungs. Pulmotors are too vigorous in their action and frequently cause rupture of the lungs.

Along with artificial respiration some form of stimulation of the respiratory center can be used to advantage. There are three methods of accomplishing this: 1. Gases in the blood. 2. Sensory stimuli. 3. Drugs. Henderson (2) has written frequently in recent years about the value of CO_2 and O mixtures in the treatment of apnea. He first used 5% CO_2 and 95% O, but due to the lowered sensitivity of the respiratory center in the new born, it is now believed by many that 10% CO_2 and 90% O is more effective (3). This combination of gases can be obtained in a pressure tank and can be released in the infant's pharynx. Artifical respiration must be employed at the same time to get the gases into the respiratory system. It has been suggested that a soft rubber catheter (No. 10) could be passed through the larynx and the gases introduced into the trachea in that way (4). However, this is a difficult technical feat and probably is not practical for that reason. Henderson's method is distinctly advantageous over mouth to mouth breathing, because it is aseptic and the gas mixture used is much more effective than expired air.

Sensory stimulation if properly done is distinctly beneficial in stimulating the respiratory center to activity. The method of alternately immersing infants in warm and cold water is very dangerous and should never be used. The cold water tub has disappeared from the modern delivery room but it took a large toll of infant life before it went. Immersion in warm water is a safe and efficient form of sensory stimulation. The use of a cold needle spray along the spine is highly recommended by some operators and is said not to have the disadvantage of reducing body temperature as the cold tub does. Spanking the baby's buttocks is a popular method but is harmful if much force is used. The criticism of most methods of sensory stimulation is that they are too violent. The worst cases of apnea are due to shock and intracranial injury in both of which conditions absolute quiet is essential.

Drugs are of little value in stimulating respirations. Alphalobeline has not fulfilled expectations. Atropin is probably the best.

After respiration has been started, it is sometimes difficult to keep it going. The commonest cause of such difficulty is intracranial injury, i. e., hemorrhage and edema and shock. It will be worth while at this point to discuss some of the measures useful in combating such conditions.

Spinal puncture may be beneficial by reducing pressure. On the other hand, if intracranial bleeding is present, this pressure is a helpful hemostatic and release of spinal fluid may increase hemorrhage. It is difficult to decide in many cases whether spinal puncture will do harm or good.

On account of the well known tendency of the blood of the new born to clot poorly, it is advisible in every case of difficult resuscitation to use some method of improving clot formation. The most effective method by far is transfusion; 40 to 50 c. c. of human blood intravenously will stop any oozing hemorrhage. The technical difficulties of transfusion in the new born are great. Almost the only vein into which we can enter the needle with any degree of certainty is the superior longitudinal sinus as it passes under the anterior fontanelle. In cases of suspected intracranial injury it is not advisible to introduce blood into the longitudinal sinus. Intracardiac transfusion has been suggested but the technical difficulties are so great as to make it impractical. A very good method is to expose by incision one of the veins about the ankle. The intramuscular and intraperitoneal injections of human blood are much less effective than transfusion, but have to be employed frequently on account of the technical difficulties of the latter. A number of years ago I saw two babies bleed to death following circumcision on the fourth day of life. In one case blood was given intraperitoneally and in the other intramuscularly with no effect on the hemorrhage.

Tube feeding should be used in all cases of difficult resuscitation. The reason for this is that no air is gotten into the stomach by the tube while if the bottle or breast is used, much air is swallowed which must be later belched or vomited. Also the activity of nursing is not good for the baby, as absolute quiet is essential. New born babies make little or no resistence to the passage of the nasal or mouth catheter.

SUMMARY

1. Apnea of the new born may result from anoxemia, drugs, trauma, or prematurity.

2. The treatment of apnea consists of artificial respiration and stimulation of the respiratory center.

3. Stimulation of the respiratory center may be accomplished by increasing the CO_2 of the blood, or by sensory stimulation, or by drugs. The first is much the most effective and safest.

4. In resuscitating the new born it is most important to be gentle, to keep the baby warm, and to keep the respiratory passages clear. Any form of treatment that does not observe these three points does more harm than good.

5. In cases due to intracranial injury, spinal puncture may be used to relieve pressure. However, a certain amount of pressure is valuable as a hemostatic, and sudden release of this pressure may start hemorrhage and so do more harm than good. In such cases the intravenous transfusion of 40 to 50 c. c. of blood will obviate the possibility of oozing hemorrhage, after which spinal puncture can be performed more safely.

6. Tube feeding should be used in all severe cases of difficult resuscitation.

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Aqueous Extract of Liver—William B. Porter, J. Powell Williams, J. C. Forbes and Hazelwood Irving, Richmond, Va., (Journal A M. A., July 20, 1929), have been able to produce an aqueous extract of liver which is potent and remains constant when subjected to those conditions conditions common to therapeutic material in ordinary usage. Forty-five patients having pernicious anemia have been studied to determine the effect of liver extract E. 29. The average erythrocyte increase for a period of twenty-eight days in anemia of 1.5 million per cubic millimeter or less when 90 cc. a day was used was 1.98 million per cubic millimeter. The average increase was 1.64 million per cubic millimeter with the administration of 45 cc. a day. The authors feel that patients with similar degrees of anemia require varying amounts of the effective material found in liver, and the maintenance dose must be regulated in keeping with the individual requirement.

LOCAL AND SPINAL ANESTHESIA*

By J. Garland Sherrill, A. M., M. D., F. A. C. S., Louisville.

The entire story of progress in the prevention of operative pain has been written within the past century. Very little was accomplished along this line in previous years. Opium, alcohol, hashish were neither effectual nor satisfactory as anesthetics, yet all ancient writers frequently referred to such substances. While ether was discovered by Valerius Cordus in 1540, and nitrous oxide by Priestley in 1774, their anesthetic properties were unknown until many years later.

In 1842 Crawford W. Long, of Georgia, employed ether by inhalation for the painless removal of a tumor of the upper jaw. Horace Wells in 1844, at Hartford, Connecticutt, having previously witnessed a demonstration of nitrous oxide by G. S. Colton, used it in his dental practice.

On October 13th, 1846, W. T. G. Morton successfully gave ether inhalation for J. C. Warren, of Boston. In 1847 J. Y. Simpson, of Edinburgh, Scotland, first used chloroform vapor as an anesthetic.

In 1895 somnoform was introduced by Holland, of Bordeaux. In 1897 ethyl chloride, previously employed as a local anesthetic, was found to produce a light degree of general anesthesia by Billeter, a Swiss dentist.

In 1895 Schleich, of Berlin, introduced mixtures of ether, chloroform and petroleum ether. More recently ethylene has been adopted in some clinics for general anesthesia. Rectal instillation of ether, in vapor or in oil, has been employed with some success. The intravenous injection of amytal is now being tried by some surgeons.

Notwithstanding the wide use of general anesthesia, and the marked improvement in methods as well as in the safety of administration, the quest still continues for the perfect anesthetic. In this effort to find a safe and satisfactory method of preventing pain and shock from surgical traumatism, investigators have turned to those measures which obtund the sensitiveness of the tissues to insult.

During all this time, in the effort to overcome the dangers of a general anesthetic as well as the necessary loss of consciousness, an impetus has been given to the use of local anesthetic agents. The scope and usefulness of these agents have been greatly increased within the last few years.

Among the earliest local anesthetic agents may be mentioned: the use of the tourniquet, which, by pressure alone, partly benumbed the parts beyond the point of compression. The application of ice was also employed for many years to deaden pain. Freezing from the evaporation of ethyl chloride or ether is used even now for the incision of abscesses or similar brief insults.

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*Read before the Louisville Medico-Chirurgical Society.

With the discovery of the anesthetic properties of cocaine, the use of local anesthesia began. Since that time many modifications of this substance have been introduced with the view of making local anesthesia safer, yet preserving the same degree of efficiency. Cocaine, eucaine B., procaine, novocaine, neocaine and other substances have been employed in various combinations, for local anesthesia. The use of cocaine in the simpler conditions, such as abscesses, minor infections, excision of papillomata, lipomata and other small tumors, excision of toenails, extraction of teeth and like procedures, has been gradually extended until many more serious operations, such as cystostomy, hemorrhoidectomy, prostatectomy, appendectomy, cholecystectomy, and even gastro-enterostomy, have been performed under the local use of novocaine or similar substance alone. At times it is necessary to add some form of soporific or hypnotic to overcome the psychic effect on the patient.

Owing to the fact that there is very little sensory nerve supply in the cellular planes of the neck, thyroidectomy offers a fine field for local anesthesia. McCarrison, a number of years ago, reported a large series of unselected cases in which thyroidectomy was performed under local anesthesia with a very low mortality rate. Some surgeons are accustomed to administer morphine hypodermatically about thirty minutes prior to operation. A large dose of veronal given the previous night, followed on the morning of operation by a smaller dose, is clamed to make the patient more comfortable and the operative steps easier.

The essential prerequisites for the successful use of local anesthesia are: a good pharmacological product, a proper knowledge of dosage, an adequate knowledge of anatomy, a perfect aseptic technique, and a patient who is not unduly excitable or neurotic.

In loose cellular tissue local anesthesia gives the best results. Tissue which is dense, and in which a small amount of fluid produces great tension, is less satisfactory for local anesthesia. In such cases, even though immediate pain is not felt, there may follow in a short time very severe and persistent pain. The latter is particularly true in bone felon and in inflammatory lesions about the teeth, especially those under the peridental membrane.

There are various methods of rendering a part painless, such as local blocking of the line of incision, complete block of all the afferent nerves of the part, distant blocking of nerve trunks, canal block, and block of the spinal nerves by the method of Leonard Corning (1884-1885).

Your attention is more particularly directed to the spinal method of anesthesia, which was the basis of my report to the Kentucky State Medical Association in 1901, and which is at present more extensively employed than at any previous time.

In the paper mentioned the following dangers were considered: (1) The shock of the puncture and injection of the drug, which was considered safe in proper doses of the drug and in the absence of disease of the spinal cord or brain. (2) The danger to the spinal cord and the centers in the medulla. It appears that this danger is inconsiderable. The danger of hemorrhage into the canal from injury of the spinal veins is very slight. (3) The action of cocaine upon the heart was studied at that time, and the conclusion was reached that the drug was no more depressing nor dangerous to the heart when given in the spinal canal than elsewhere in the body. Phelps' report of death from local not spinal injection of 30 minims of a 2 per cent cocaine solution shows the toxicity of the drug, and the conclusion was reached that if 3-5 of a grain could kill, our dosage would be limited to 15 minims of a 2 per cent solution. While undoubtedly cocaine is the most certain of the local anesthetics, yet it must be admitted that the more recent drugs employed in spinal anesthesia are less toxic than cocaine.

The annoying and disagreeable symptoms so common in the earlier work, such as slow, feeble heart beat, nausea, faintness, pallor, vomiting, dizziness, sweating, cyanosis, involuntary evacuation of the rectal contents, are noted less frequently under present methods than in our early cases. This is the result of less toxic drugs and the better safeguards employed at present. The shock and depression in those early cases were found to be lessened by the use of adrenal solution. The place of this drug has been taken by ephedrin which seems markedly to lessen the decline in blood pressure.

Some of those early patients suffered greatly from headache occasionally lasting twenty-four to thirty-six hours, but acetanilide usually gave them relief. With the use of novocaine or one of the similar drugs, this symptoms at present causes little inconvenience.

It seems to us that the simpler the technique the more satisfactory will be the result. The approach to the spinal canal may be made at almost any level, but the most useful site is at the level of the third or fourth lumbar space.

It makes little difference whether the point of puncture is rendered insensitive or not. A small amount of novocaine solution may be injected into the skin and the spinal ligament. This is thought to lessen the pain of the puncture. The tap is best made by introducing the needle below and slightly to the right of the vertebra above, and pushing to the left and reaching the middle as it enters the fibrous sheath of the spinal canal. When the needle strikes the bone, it should be withdrawn and reinserted. Fluid must be obtained from the canal before the injection is made.

Most operators now dissolve the drug in the spinal fluid withdrawn on puncture and inject the solution thus made.

Wells, of Philadelphia, removes sufficient fluid to make a spinal Wassermann reaction test, in addition to that necessary for dissolving the drug, and claims that it causes no adverse symptoms. We had always considered that the same amount of fluid removed should be replaced, but in this we may have been incorrect. We thought, also, that the height of anesthesia depended to some extent on the force applied in the injection of the drug. This,, too, was the conclusion of Morton who performed more high operations than any of the earlier surgeons under this form of anesthesia.

Many of our patients were allowed to walk after the operation, in minor cases, with no unpleasant results. Therefore, we do not see the urgency of the Trendelenburg position as claimed by some; neither do we see the necessity for the use of a special solvent as advised by Pitkin, nor the restriction of position which he recommends. The osmosis in the spinal fluid is very rapid, and the drug becomes interchanged quickly with very satisfactory results.

Conclusions

There is a distinct field for the employment of spinal analgesia in surgical practice.

This type of anesthesia is useful in all young people who have no organic lesion, and it then becomes a question whether the patient desires a general anesthetic, or whether the operation can be performed as well under this form of anesthesia or not. It is merely a matter of choice in young people.

It will be found most useful for operations on the lower extremities, around the pelvis, and in the abdomen; it is more satisfactory in these regions than in the upper portions of the body, although it has been used for surgery of the gall bladder and stomach; and operations have been performed as high as the jaw under this type of anesthesia.

It will be found particularly useful in patients suffering from pulmonary disease, where ether would likely be followed by post-operative pneumonia.

It is indicated in elderly patients who have renal disease without too high degrees of arteriosclerosis.

It may be advantageously used in diabetics and obese individuals.

In septic peritonitis, or where there is what is called adynamic ileus, spinal anesthesia has been employed by many surgeons to lessen the tension on the abdomen and to relieve the toxemia.

In patients who have high degrees of blood pressure, where the vessels are too rigid, it is quite possible that sudden loss of tension in the vessels would produce some shock with lowering of the pressure.

In disease of the spinal cord or brain, spinal anesthesia is inadvisable.

In overtrained atheletes there is generally some cardiac hypertrophy with perhaps an overload on the heart, and in such individuals it would be unwise to use this form of anesthesia.

It is a question whether in some types of alcoholism spinal anesthesia is better than ether or chloroform; alcoholics take ether badly and difficulties have arisen in some instances in which it was employed.

When there is low blood pressure with no response to adrenalin or ephedrin, spinal anesthesia is not advised.

In cases of extreme shock where the blood loss has been excessive, this type of anesthesia must be used with caution.

In high degrees of sepsis there are a few cases where spinal anesthesia might cause an accident and in which general anesthesia would be safer.

In desperate cases of intestinal obstruction, where the least little thing will carry the patient beyond the limits of safety, it is perhaps better to open the abdomen under local anesthesia and determine what operation can be performed with safety.

Thousands of abdominal operations have been performed under local anesthesia with small mortality.

DISCUSSION

John R. Wathen: First, I wish to thank Dr. Sherrill and the society for inviting me to be present at this meeting. The essayist in his paper has covered a very wide territory.

The question of local anesthesia is one upon which we have changed our position several times within the past few years. We are now operating on many types of cases that we formerly regarded as too hazardous for surgery. I refer particularly to patients with cardiac, pulmonary and renal affections who were formerly believed inoperable. These cases can now be successfully handled under regional anesthesia. Surgical treatment can be safely undertaken in many types of cases under regional anesthesia where general anesthesia would place an unwarranted burden on the heart or kidneys.

We are performing more operations under regional anesthesia than ever before. Report from the Mayo Clinic shows that 43 per cent of their operations are performed under local anesthesia of one form or another, something that was never heard of before.

Better local anesthetics than cocaine are now available, and of these I believe the original novocaine is the best. I have been using this agent in 3-4 of one per cent solution and have found it effective. Adrenalin is important, but I never use more than 15 drops of a 1 to 1000 solution at any one time. I usually mix my own solutions for all major operations to be performed under local anesthesia. I take 100 c. c. of 3-4 of one per cent novocaine and add to that 8 drops of adrenalin. This makes about one-third of the maximum dose of adrenalin, and more may be added to the solution if necessary. The use of adrenalin is important in every case where operation is performed under local anesthesia. The administration of morphine may be necessary for relief of pain. Quietude, pleasant surroundings and proper preparation of the patient have a great deal to do with local anesthesia psychology in my opinion. The largest part of my goiter surgery is now done under local anesthesia. I have found novocaine the most successful and satisfactory anesthetic agent.

I would like to emphasize the importance of giving veronal prior to operation under local anesthesia. A large dose of the drug is administered the night before operation, then the next morning about seven o'clock a smaller dose is given. I generally give 15 grains in liquid form as the night dose and half that quantity in the morning. I do not use hyoscine or other drug of that type but just prior to operation administer 1-4 grain of morphine hypodermatically.

Amytal intravenously has been highly recommended as an anesthetic. I have used it on a few occasions but can see no advantage in it. In toxic goiter cases the heart is already damaged, there is a very low diastolic blood pressure, the patient is in a toxic condition, and we want to raise the blood pressure rather than lower it. Amytal causes a decline in blood pressure which is the very thing we want to avoid. For the last five or six years the use of veronal has been so satisfactory that I can see no reason for changing to the intravenous adminstration of amytal. Especially in operating upon goiter cases we want the patient responsive and not asleep.

The subject of local anesthesia is vital to all of us. I have enjoyed Dr. Sherrill's splendid paper.

Samuel G. Dabney: I wish to speak of only one phase of this subject, namely, anesthesia of the membrana tympani. About twenty years ago the proposition was made to instill into the ear a few drops of a mixture of equal parts of carbolic acid, cocaine and menthol for the production of anesthesia for myringotomy in acute otitis media. I used this mixture in several cases with entire disappointment, perhaps because I did not leave it in the ear for a sufficient length of time.

Five years ago, before this society, one of my younger colleagues stated he had obtained very satisfactory results from this mixture. An opportunity for again trying it presented the next day. A few drops of the mixture was instilled into the ear, the patient lying on a sofa with the diseased ear upward, and allowed to remain in the ear between twenty and thirty minutes. By that time the tympanum looked white in color and myringotomy was performed without the least pain. I have used the mixture frequently since then.

To relieve the pain of earache due to acute catarrhal inflammation, I have for many years ordered a solution containing five per cent each carbolic acid and cocaine dissolved in equal parts of adrenalin chloride solution and glycerine—a few drops warm in ear every two or three hours. I find it usually very helpful for the pain.

Adolph O. Pfingst: I am under the impression that Dr. Sherrill gave the credit of administering the first ether anesthesia for surgical operation to dentist Morton of Boston instead of Dr. Long of Atlanta. Credit for this achievement should go to the South and to the medical profession.

I recall when Dr. Sherrill began his spinal anesthesia some 25 years ago. At that time he and Dr. James Bullitt were very active in this work and as both were members of this society we had the information at first hand. It is my belief that notwithstanding the fatal cases which were reported elsewhere from spinal anesthesia, Dr. Sherrill would not have abandoned the method had the less toxic drug novocaine been available and had adrenalin been employed with the anesthetic.

Regarding the toxicity, I am convinced that the use of adrenalin coincidently with cocaine lessens its toxicity by virtue of the constriction of blood vessels lessening absorption. When I was doing throat and nose work I employed cocaine without apprehension but I used strong solutions and crystals believing that by this means a more rapid constriction of the vessels followed. I was fortunate in never having had a case in which symptoms of poisoning arose.

Ever since Keller introduced the use of cocaine in ophthalmology we have been fortunate in the matter of our anesthesias. We can employ it practically in every operation on the eye, for such as cataract extraction, iridectomy, pterygium, removal of steel from within the eye. Even in the enucleation of an eyeball anesthesia can be obtained by the local use of cocaine, however, I have never reconciled myself to remove an eye with the patient awake for I am convinced that there would be a profound psychic effect in such cases. Perhaps the only kind of case where a local anesthesia can not be successfully used is in iridectomy for acute glaucoma where the circulatory disturbance prevents absorption and consequent anesthesia. I still employ cocaine for operations where the drug is instilled in the eye to bring about anesthesia for the small amount of the drug used would make the toxicity negligible. In lid operations where the drug is injected I feel sure that novocaine is the preferable drug as it is less toxic than cocaine. The only objection that can be offered to the instillation of cocaine into the eye is a dryness of the cornea that sometimes prevails. However, this can be avoided by having the patient keep the eyes closed during the preparation for the operation. Local anesthesia undoubtedly has a big advantage in the definite rapidity with which cases can be prepared for operation. As evidence of this I would mention that recently I did three cataract extractions and removed a chalazion in an hour with no effort at breaking a time record.

I would like to say a word regarding the prolonged use of cocaine in the eye as it is sometime used in corneal ulcer or other local painful affections. I consider this harmful as it causes the blood vessels to lose their tone, increases the tendency to chemosis and by disturbing the circulation it increases the danger of extension of the ulcer.

David C. Elliott: It has not been so many years since local anesthesia was developed. The introduction of inhalation anesthesia immediately started everyone to work trying to discover other means and agents for anesthesia.

The use of cocaine to produce anesthesia for general surgery has been attended by many fatalities primarily because of the toxicity of the drug itself. The Index Medicus each year shows several deaths from the use of cocaine. Most of the fatalities are from infiltrations around the urinary bladder or urethra; some have occurred during major operations, but not many. Fatalities from spinal anesthesia are not due to the method itself, they are due to trauma and shock or cocaine.

I agree with what Dr. Wathen has said about local anesthesia in toxic goiter cases. The use of intravenous preparation or hypnotics which completely isolate the patient from surroundings should not be encouraged. Amytal does exactly what it should not do in local anesthesia cases, the patient is absolutely unconscious and consequently non-co-operative, or may be in a semicomatose state and will react violently without co-ordination; for that reason amytal can only be satisfactorily used as a preliminary to nitrous oxide and oxygen anesthesia. The intravenous injection of amytal followed by gas-oxygen will permit abdominal surgery without the use of ether. The advantage of amytal, so far as I can determine, is that the stage of fright in general anesthesia is entirely eliminated, the patient becomes tranquil almost immediately, and when that stage is reached gas-oxygen can be superimposed and very successful anesthesia produced. The blood pressure declines very slowly. The oxygen content of the mixture may be gradually increased if necessary, but the natural color of the patient is maintained when this combination is used. In my opinion if amytal is used alone, without being supplemented by gas-oxygen, you will get into trouble. Furthermore, trouble may arise if ether or chloroform is used after amytal. If ether is used the patient is likely to enter the stage of very deep anesthesia before you can control it. The most ideal combination is with nitrous oxide and oxygen, i. e., amytal followed by gas-oxygen.

The chief section of Dr. Sherrill's paper relates to spinal anesthesia, or, as he terms it, analgesia, because the effect is not on the cord but on the roots of the spinal nerves. Sometimes the patient will have control of the extremities and still have no sensation in the lower part of the body. Anesthesia can be produced over the entire cutaneous surface of the body by spinal injection, but this is not ordinarily attempted. This may be accomplished if a large amount of spinal fluid is withdrawn and the anesthetic solution allowed to flow backward and forward in the spinal canal so the anesthetic is diffused throughout the spinal fluid and in that way general anesthesia is produced. Koster reports a large number of operations performed under anesthesia thus produced. Spinal anesthesia can also be used in cases where but small amounts of spinal fluid can be obtained. I have encountered this difficulty only two or three times, but occasionally a case will be found where we are absolutely certain that the point of the needle has entered the intradural space, not impinged upon the cord or nerve roots, and still no appreciable quantity of fluid can be obtained. In such instances satisfactory anesthesia has been produced by dissolving novocaine crystals in normal saline solution and injecting this solution into the subdural space.

In making spinal punctures it is unnecessary to give a preliminary injection of novocaine. If the point of the needle is sharp, skin puncture can be made practically painlessly. The patient always complains of a pricking sensation when the dura is punctured, but by pressure with the thumb nail on the interspinous ligament sufficient numbness can be created to make the puncture painless. For that reason I think preliminary injection of novocaine solution into the ligament is an unnecessary step.

There is nothing unusually complicated about the technique of spinal injection. I agree with Dr. Sherrill that the simpler the method the better the results will be. Spinal fluid is the best solvent for the novocaine crystals, but when no amount of fluid is available saline solution may be satisfactorily employed. A great many solvent mixtures have been introducd, but I think they merely complicate matters and increase the element of danger. I have in mind a reported case of apparent strychnine convulsions following the use of one of these solvent preparations having strychnine in the mixture. Another disadvantage of such solvent mixtures is that if the patient moves or changes position on the table, unless the agent injected is not thoroughly mixed with the spinal fluid it may perhaps reach the higher centers, and give rise to trouble. When novocaine becomes fixed in the nerve roots, anesthesia stops at that particular level.

The height of anesthesia can be controlled before the injection by first deciding how high anesthesia is desired then by using a larger amount of fluid merely causing displacement of the anesthetic solution to a higher level. Others claim controllable anesthesia can be obtained by using a solvent lighter than the spinal fluid. According to this method if the anesthesia is not high enough, the anesthetic bubble that is floating in the spinal canal may be changed in position by tilting the patient to a new level thus influencing the bubble to rise. The idea is that as the bubble floats upward the zone of anesthesia should rise at the same time. Experimenters have reported that in nine seconds the anesthetic solution may pass from the lumbar region to the medulla or cervical area, whereas it takes from two to three minutes for peripheral (skin) anesthesia to be detected. Of course by that time the anesthetic solution may be anywhere, even in the brain itself or wherever it may float.

The types of cases in which spinal anesthesia is used are usually cases where a general anesthetic cannot be safely employed, and cases where the extent and magnitude of the operation are such that it cannot be satisfactorily performed under local or infiltration methods. For that reason a higher mortality rate is to be expected than in other forms of anesthesia, because spinal anesthesia is given to the worst types of patients many of them elderly indivduals who are poor surgical risks. Some of the patients have nephritis, cardiac diseases, diabetes; others are overweight or excessive users of alcohol over long periods of time, making them poor risks. We have given spinal anesthesia to a great many children with satisfactory results. We have had four or five children less than four years of age; the youngest was a child of twenty months. In intussusception of infants it is an excellent form of anesthesia to use, it produces profound relaxation and children can be operated upon with no more disturbance or shock than any other patients. A most remarkable group of cases of intussusception, all operated upon under spinal anesthesia, was reported recently by Bailey in the British Medical Journal. There were fifteen patients in the series and only two died. All of them were less than a year and a half old, most of them within the first six or eight months of life.

Since introduced by Corning more than forty years ago, spinal anesthesia has not been discontinued at any time although its use may have declined in certain sections. I believe spinal anesthesia will always have a field of usefulness just as will all other forms of local anesthesia. Various other injection methods may have to be discarded in the future, but we will have at our command other methods to be used in selected cases.

As to the point of spinal injection: We have given spinal anesthesia in more than four hundred cases. In the first group of between one hundred and two hundred cases, the injections were made as high as the twelfth dorsal and first lumbar vertebrae. In the last group of more than two hundred cases, we have not made a single injection above the interspace between the second and third lumbar, and I can see no reason for going higher than that. The spinal cord proper ends between the first and second lumbar vertebrae, and in going above that point if the patient moves or we proceed too far, the cord may become involved. If puncture is made below that point, the needle may only enter the roots in the cauda equina. The result so far as the zone of anesthesia is concerned rather depends on the volume of solution used instead of the site of puncture, or degree of pressure used in making the injection. The matter of the volume of spinal fluid withdrawn, as mentioned by Dr. Sherrill in the work of Wells, and whether all of the fluid is replaced, do not appear to be of especial importance. Some men withdraw 20 to 30 c. c., a part of which is not replaced, and no unfavorable results have been reported from this method. Personally, I have always tried to disturb the contents of the spinal canal just as little as possible, losing as few drops as possible when attaching the needle and syringe, replacing practically the same amount of fluid as was withdrawn.

As to the occurrence of headache following spinal puncture: We have had two such cases, the latest last week a woman of 35, who complained of severe headache persisting for a few hours. The headache then subsided and there has been no trouble since. The other patient was an elderly woman who had headache for several days after spinal puncture. She was given radium treatment for cervical carcinoma, and after the radium had been removed she no longer complained of headache. I do not believe this was associated with the spinal puncture.

In regard to injury of the spinal cord: In our series there has been one case of this kind. This woman apparently had a hematoma at the site of puncture. The spinal fluid obtained showed mixture with blood. The patient was about 38 years old, blood pressure 240, nine or ten weeks pregnant, she weighed 190 pounds, was very short and fat . We gave her spinal anesthesia for abdominal section because she had nephritis, eclampsia, retinitis, completely blind in one eye, choked disc in the other, and a few additional complications! She died about six weeks after the operation having never regained complete sensation above the hip. Although the zone of anesthesia had extended to the costal margin, the extremities never regained full sensation. Just what the nature of the injury was could not be determined. Death occurred from general septicemia.

In another instance of eclampsia we encountered bloody spinal fluid. The woman had an intradural hemorrhage, the fluid was straw color probably from the admixture of blood. In a few cases where bloody spinal fluid has occurred spinal anesthesia was not given because the degree of anesthesia obtainable under such circumstances is uncertain, there being an almost complete absorption of the novocaine by the hemoglobin, rather than the spinal nerve roots.

I have had only two deaths on the operating table where spinal anesthesia was used. One was a woman of 63 who died within thirty minutes after giving the injection. The second patient was a woman who had been an invalid and bedridden for three and a half years. Operation was for an acute intra-abdominal lesion, which required about an hour. The operative steps had been completed and the binder was being applied when she expired. I think death was due to increased pressure against the diaphragm. Thus, we have had only two deaths in a series of about four hundred and fifty cases in which spinal anesthesia has been given, including some mighty desperate risks. I think that, so long as we can continue a record of this kind, we will continue to use spinal anesthesia.

I wish to thank Dr. Sherrill for inviting me here tonight. His general survey of the subject of local and spinal anesthesia is very interesting and has made us realize how far advanced we are today over what we were a few years ago.

James Royden Peabody: I know nothing about spinal anesthesia as it is so seldom used in our line of work. I was wondering why no one has touched on the question of local anesthesia for tonsillectomy. There has been some discussion on the subject of local anesthesia for surgical work about the nose. The question about local anesthesia for tonsillectomy will probably never be settled.

Two years ago I took a vacation of six weeks and went to New Orleans, St. Louis and Boston to see what laryngologists were doing there. I was very much interested in noting quite a difference of opinion about the use of local anesthesia for tonsillectomy. In New Orleans I was introduced to Dr. Lynch, a splendid operator and one of the most prominent men there. He expressed his opinion frankly about the employment of local anesthetics, saying that he did not use them for tonsillectomy because there was more danger of cervical abcess.

In St. Louis most of the men I interviewed were afraid of local anesthesia on account of the danger of the anesthetic itself, they have had some deaths from it and they were doing tonsillectomies under nitrous oxide gas anesthesia. The Sluder method of removing the tonsil in its capsule is a favorite method in St. Louis, but when you "snatch out" a tonsil by his operation you do not know whether the hemorrhage is going to cease or not. I mention that just to show you how it is done in St. Louis, but no where else so far as I know.

In Boston I found they were using general anesthesia for tonsillectomy practically altogether. In Misher's clinic he and his coworkers in the nose and throat department were using ether anesthesia, with the patient sitting upright in a specially arranged chair, tonsillectomy being performed under general anesthesia with the patient in a sitting position.

Just before that I had occasion to visit the Mayo Clinic. One morning they had more than thirty tonsillectomies under local anesthesia. They were using cocaine for their injections, 1-4 of one per cent solution. They told me they had never had a fatality from it, but they were using only a small quantity. They depended largely on some preparation used the night before operation. I do not know whether it was veronal or not. Regardless of how a local anesthetic has been used, there are certain patients who do not do well under it. If I had to do tonsil work under local anesthesia, I would select only male adults for operation. I would not attempt to inject a local anesthetic in a nervous woman.

I have not studied statistical reports covering fatalities under local anesthesia, but many cases are not reported Quite recently I saw the report of a doctor's death, following one injection of a local anesthetic for tonsillectomy. In former years several deaths occurred from the mistaken use of cocaine instead of novocaine, the solution being taken from the wrong bottle. Many of the men who advocate local anesthesia for tonsillectomy do not use cocaine even for swabbing the pharynx before operation.

I have never tried to give a child local anesthesia for tonsillectomy. I am not afraid of a general anesthetic. Dr. Solomon made the statement before a local medical society not long ago that the effect of general anesthetics lasted a life time, that they should never be used. I believe that under local anesthesia, especially if we do not use adrenalin, for tonsillectomy we are more apt to have secondary hemorrhage. I have seen this follow local anesthesia three or four hours after the operation. Dr. Dabney will recall helping me in such a case several years ago, where the patient had a serious secondary hemorrhage which occurred several hours after tonsillectomy. I have had several others, and am free to admit that the symptoms mentioned by Dr. Sherrill, pallor, cold perspiration, etc. have been noted immediately after the first injection of novocaine.

Stephen C. McCoy: I want to thank the society and Dr. Sherrill for the privilege of being here tonight and listening to this very interesting discussion. Spinal anesthesia was not popular in 1901 when Dr. Sherrill was using it and for this reason the method was practically discontinued. I think we are now in the midst of what is going to become a very valuable method of local anesthesia, that is the spinal injection of novocaine which we know is less toxic than cocaine which was used in the earlier days. Dr. Sherrill used to speak quite frequently of the toxic effect of cocaine when introduced into the spinal canal, that he thought toxicity depended upon quantity of the drug injected. We hear less of this now since less toxic drugs than cocaine have been introduced. We were giving spinal anesthetics as early as 1913 at the City Hospital. Very few deaths occurred from spinal puncture in those days. The anesthetic was injected with the patient in the upright position, he was not permitted to assume the recumbent posture for fear of causing trouble. Today the method has changed, spinal injections are made with the patient lying on his side, and no trouble has followed. We have been able to follow 50 or 60 city hospital patients who were given spinal anesthesia and the results have been uniformly good. We had a few dry punctures in 1918, and toxic effects were noted in two or three patients. At the present time no urologist gives general anesthesia for surgery of the lower genito-urinary tract by preference. Spinal anesthesia is much better. We can decapsulate the kidney, perform prostatectomy, cystotomy, and many other types of operative work can be satisfactorily performed under spinal anesthesia. Complete relaxation is secured with this method.

Wm. E. Applehaus: I want to take this opportunity to thank Dr. Sherrill and the society for their kind invitation to be present tonight and for the splendid presentation of the subject of local and spinal anesthesia by the essayist. In reviewing the literature on spinal anesthesia about three years ago I found Dr. Sherrill's article on spinal analgesia published in the transaction of the Kentucky State Medical Association, 1902. Though I had found many more recent articles there were none that surpassed this excellent paper. His compilation of 1,500 cases in which this form of anesthetic had been used was the most complete at that time.

There is no drug which can be used for local anaesthesia that is not toxic. All of our work around the terminal bowel is more or less painful. We can not make our examinations or administer our treatment without some form of anaesthetic. We use 15 per cent cocaine for topical applications to the mucous surface and ½ per cent novocain for simple local infiltration. We occasionally encounter a patient who seems to be very susceptible to novocaine, as shown by the development of shock, pallor and so forth and under no circumstances neither Dr. Hanes nor I feel that the patient is entirely safe without the immediate application of supportive measures.

We certainly do not regard the depressing symptoms of novocain lightly. While some men suggest this condition is not serious; it is, however, most distressing to the patient and if we wish to popularize local anaesthesia we must consider the patient's general well being as well as to perform operations painlessly. It has been shown by experimental work that barbital has a direct antidotal action in novocain poisoning. We have recently been using veronal as a preliminary in every case. I think it is important to always have restoratives and stimulants available. For the relief of these toxic symptoms Dr. Hanes' favorite remedy is whiskey. Aromatic spirits of ammonia, strychnine, ephedrin, adrenalin, or some alcoholic stimulant should be given as needed when the patient is placed on the table.

I believe we should be constantly familiar with the patient's blood pressure while under the influence of local anaesthesia. In this way we know the onset of toxic symptoms in the patient. During the last year we have used spinal anaesthesia in nearly every case. If proper pre-operative precautions are taken and the patient constantly watched for the onset of toxic symptoms and the proper restoratives administered promptly I believe spinal anaesthesia is ideal and much safer for surgery about the rectum than any form of general anaesthesia.

Emmet F. Horine: Essays dealing with any phase of anesthesia always interest me because of my previous connection with this branch of medicine. Dr. Sherrill's paper has been especially interesting since it not only considers spinal anesthesia but also discusses the history of anesthesia in general.

The history of the use of anesthetics is marked by many unusual incidents. One of the most striking is Sir Humphrey Davy's statement concerning nitrous oxide published more than forty years before it was first used in any surgical procedure. Davy began experimenting with nitrous oxide in the latter part of the eighteenth century. In a book of his dealing with Nitrous Oxide published in 1800 he suggests that nitrous oxide might be used with advantage "during surgical operations in which no great effusion of blood takes place." Davy also records relief for the pain of an aching tooth by inhaling nitrous oxide. These statements apparently attracted no notice until after Horace Wells had used nitrous oxide in 1844 for dental work.

It is possible that I misunderstood the essayist but I thought he said that Morton first employed ether for a surgical operation on October 13, 1846. Of course it is a matter of only a few days but so many errors and disputes have already found their way into the literature that it is well to verify our dates. I believe investition will show that the surgical operation under ether was performed at the Massachusetts General Hospital on October 16, 1846. The surgeon was Dr. J. C. Warren and the anesthetist was Dr. Wm. T. G. Morton, a dentist.

Leonard Corning did much pioneer work with local anesthetic agents and advocated spinal anesthesia. Schleich also deserves much credit for his advocacy of local anesthesia. In his book, "Schmerzlose Operationen" Schleich forcibly showed the dangers of general anesthesia and enunciated certain axioms which are well worth repeating. His rules were briefly as follows: first, not to anesthetize unless the gravity and seriousness of the surgical condition was equally as or more serious than the disease itself; second, only to employ a general anesthetic when the operation could not be performed under local anesthesia and finally to handle every anesthesia as though the patient were one of the few for whom a general anesthetic was extraordinarily dangerous. I am afraid that, in certain instances, the method of anesthesia is not selected especially for the patient but on the other hand a routine method is followed regardless of circumstances. It is so much easier to have a general anesthetic administered with the patient unconscious and unable to complain of undue roughness that this easier method is more routinely employed. It is quite apparent that greater anatomical knowledge and greater surgical skill as well as greater patience are required for local anesthetic work than for general. I believe the time will come when not forty but possibly eighty per cent of all operations will be performed under local anesthesia. Certainly so far as operative work in heart disease is concerned local anesthesia should always be the method of choice.

J. Garland Sherrill, (in closing): I wish to thank the gentlemen for their liberal discussion. It is important that the anesthetic agent be sterilized before being injected into the spinal canal. As stated in my former paper on spinal analgesia, "the cocaine must be sterile." Sterilization may be accomplished by the fractional method, or the drug may be shaken in ether and then dissolved in sterile water. Many operators depend on the sealed sterilized tubes with perfect success. Other methods of sterilization are described such as heating to 120 degrees C. in a sealed vessel in oil; it is claimed this does not decompose the drug; or the solution may be passed through a porcelain filter, the first portion which passes being thrown away. Every vessel and all water used in the preparation must be sterilized by heat. No bicarbonate of sodium should be used in sterilization, as that decomposes the cocaine.

Spinal anesthesia is especially advantageous where the time of operation must be brief, as in intussusception and intestinal obstruction where the condition of the patient precludes a prolonged operative procedure. For operations about the anus, rectum, urinary bladder, and lower extremities, spinal anesthesia is the best method in the majority of cases. I have used this method for the removal of an ovarian cyst with success.

The best results will be secured by using proper judgment in selecting the type of anesthesia to be used in individual cases. We should not depend on one form of anesthesia alone. It is difficult, indeed quite impossible to say which is the safest anesthetic. Sir Wm. McEwen continued the use of chloroform and claimed it was the safest of all. By using proper care and judgment in selecting the anesthetic best suited to the case in point, our results will be improved. If a man had marked pulmonary congestion or pneumonia, it would be unsafe to give him ether.

The subject of local and spinal anesthesia is so broad that my paper only scratched its surface. Novocaine may be boiled without destroying its usefulness. Novocaine is perhaps one-third as toxic as cocaine, and larger doses of the former may be given with safety. Cocaine should always be used with caution, and when the drug is given the patient should have the advantage of ¼ grain of morphine.

The work that has been done in goiter cases and in the presence of serious cardiac lesions illustrates the value of local and spinal anesthesia. My experience is that heart murmurs do not contraindicate the administration of a general anesthetic as a rule.

As mentioned by Dr. Horine, if a patient can be operated upon under local anesthesia without too great haste, then local should be selected. The patient should not be exposed for a long time under local anesthesia when we can do much better under the relaxation of a general anesthetic. Determine the best agent to use, and have the best man to give it.

Recurrence of Gastric Ulcer—Among 1,350 operations on the stomach, analyzed by Wanke for the purposes of this study, 110 were done for a recurrence of the symptoms. More than half the cases (56 per cent) were recurrences after gastro-enterostomy; 21 per cent followed Billroth I and II operations. In forty-eight cases the ulcer recurred; in the remaining cases other conditions were noted (adhesions in fifty-six). Forty of the forty-eight patients were operated on according to one of Billroth's methods. The author stresses the point that the indications for every secondary operation are the same as those which lead to primary operations.

WOMAN'S AUXILIARY NOTES

THE WOMAN'S AUXILIARY OF THE AMERICAN MEDICAL ASSOCIATION ANNUAL MEETING IN DETROIT, JUNE 23-27.

Plans for the annual meeting of the national Auxiliary in Detroit, June 23-27, come on apace. The Auxiliary as an organization is occupied only with business affairs, and has nothing what ever to do with any social gatherings except the official Auxiliary luncheon. Its members are Mrs. William Gerry Morgan, D. C., Mrs. Olin West, Ill., Mrs. L. T. Harris, Mich., Mrs. Walter Jackson Freeman, Pa., and Mrs. Southgate Leigh, Va., chairman. Mrs. Basil Loren Connelly is chairman of the Detroit committee for the convention proper, and Mrs. Burt Shurley of the social activities.

The Roof Garden of the Hotel Tuller, next to the Statler, will be headquarters for all Auxiliary business—registration, meetings etc., and the Auxiliary luncheon on Tuesday, June 24. There will be no registration fee, but members will buy their own luncheon tickets—$1.50. The registration bureau will be open Monday, Tuesday and Wednesday, June 23, 24, 25, from 9 to 4, Thursday and Friday, June 26, 27, from 9 to 12. Programs, badges, etc., may all be procured here, and invitations, tickets and transportation cards must all be procured here in advance, as only programs may be procured elsewhere.

The meetings, as you all know, are open to every woman attending the convention, and under Mrs. Hoxie's leadership they are bound to be well worth the trip. There will be three morning sessions Tuesday, Wednesday and Thursday, June 24, 25, 26. The afternoons and evenings are all left free for sight seeing and social activities, for which many plans are in the making. Details have not yet been announced, but they include motor and boat excursions, and visits to some of the handsome private estates in the environs, including that of Mr. Henry Ford. The Detroit Museum of Art is among the best in the United States. No parties have been scheduled during business hours.

No one may represent her state in any capacity whose State dues are not fully paid. The Chairman of the Committee on Credentials and Registration is Mrs. Ledru Otway Geib, 3860 St. Clair Avenue, Detroit.

Only delegates may take an active part on the floor of the convention, but alternates should attend all sessions and hold themselves in readiness to take their delegates' place if necessary. All resolutions must be in writing and signed, and in the hands of the committee 24 hours before the session at which they are to be presented. Mimeographed copies will be distributed as the delegates take their seats. The Chairman of the Committee on Resolutions is Mrs. Augustus S. Kech, 218 Logan Avenue, Altoona, Pa.

Program

MONDAY, June 23, 1930

2:30 P. M. Meeting of the Board of Directors—Statler Hotel.
All state presidents and presidents-elect are asked to time their arrival and stay in Detroit so as to be able to attend the Pre-Convention and Post-Convention Board Meetings.

TUESDAY, JUNE 24.

9:00 A. M. Registration. Auxiliary Headquarters Hotel Tuller.
9:30 A. M. Business Meeting.
Invocation.
Address of Welcome.
Response.
Report of Committee of Arrangements; Announcements.
Report of Entertainment Committee.
Adoption of Convention Rules.
Minutes of Seventh Annual Meeting.
Treasurer's Report.
Auditor's Report.
President's Report.
Committee Reports:
Finance. Presentation of the Budget.
Printing.
Organization.
Press and Publicity.
Hygeia.
Public Relations.
Legislation.
Program.
Revisions.
Historian.

New Business.

1:00 P. M. Luncheon, Hotel Tuller Roof Garden.
Speakers will be announced later.

Wednesday, June 25.

9:00 A. M. Registration, Hotel Tuller.
10:00 A. M. A Workers' Conference.
The Purpose of the Auxiliary.
The National Program.
Analysis of the Work of State Auxiliaries on the Basis of the Official Program of the National Auxiliary. Conducted by Mrs. Evarts V. De Pew, assisted by all State Presidents.

This discussion is planned to be a workers' conference in the real sense of the word. The discussion will be interesting and exhilarating to any doctor's wife; but it should be especially valuable to state presidents, presidents-elect, and committee chairmen, and to the corresponding county officers.

Business Meeting Continued.

Unfinished Business.
New Business.
Report of Credentials Committee.

Report of Nominating Committee.
Election of Officers.
Introduction of New Officers.
Adjournment, sine die.

Thursday, June 26.

Mrs. J. Newton Hunsberger, presiding.
9:00 A. M. Post Convention Board Meeting.
All state presidents and presidents-elect should be at this meeting to assist the incoming president in planning the work of 1930-1931. .. ..
10:00 A. M. Round Table for State Presidents and Committee Chairmen.
Chief Purposes of the State Annuay Meeting.
Adequate Preparation for the State Meeting.
Agenda for the State Meeting.
Duties of State Board Members,—Especially of the President and Committee Chairmen.

BOOK REVIEWS

MINOR SURGERY — By Frederick B. Christopher, M. D. Associate in Surgery at Northwestern University Medical School, Chicago. With a foreword by Allen B. Kanavel, M. D., Professor of Surgery, Northwestern University Medical School. Octavo of 694 pages with 465 illustrations. Philadelphia and London . W. B. Saunders Company, 1929. Price $8.00 net.

Dr. Christopher, of Northwestern University Medical School, has written a new Minor Surgery—new in concept, new in presentation, new in its material, and in its instructive illustrations. It gives to minor surgery the major importance it merits, because, in the words of Dr. Allen B. Kanavel, "too often minor surgery becomes major surgery through carelessness or incompetence."

This is a book the general practitioner as well as the surgeon can wisely follow—and *confidently* follow. It makes no unusual demands on experience or equipment. Simplicity is its keynote.

Technic is given in rich detail. Each procedure is fully set down—and you are guided at every step by Dr. Christopher's definite instruction. Instruments and their manipulation are described and illustrated. Complications are foreseen and provided for. Varied methods are given to help fit the treatment to the individual case.

In the opening chapters Dr. Christopher gives a general discussion of injuries—closed wounds, open wounds, foreign bodies, burns, furuncles and carbuncles, injuries by electricity, circulatory disturbances, and gangrene. Then he takes up individually the various regions of the body. You are given the recognition and care of injuries of the head, trunk, male and female genito-urinary organs, anus and rectum, upper extremities and lower extremities.

There is *diagnostic help, too.* The treatment of each condition is preceded by a concise sketch of important signs, symptoms, and other diagnostic data. These clinical pictures assist you in the selection of the method of treatment. The indications for medical treatment are given.

Following the discussion of regional surgery Dr. Christopher devotes a large section to a consideration of the technic of anesthesia, spinal puncture, infusion, hypodermoclysis, vaccination, skin-grafting, transfusion, bandaging, and other minor procedures. Illustrations are freely used.

THE BABY'S FIRST TWO YEARS—By Richard M. Smith. Published by Houghton-Mifflin Co., No. 2 Park street, Boston, Mass. Price $1.75.

A clear, simple, authoritative advice for the care of the baby during the first two years. The introduction states that the material contained in the previous editions has been retained in a large measure but is rewritten to conform with present conceptions based upon advancing medical knowledge.

THE SURGICAL CLINICS OF NORTH AMERICA — serially, one number every other month. Paper $12.00; Cloth, $16.00. Philadelphia and London:

W. B. Saunders Company, publishers, Philadelphia. These books are issued serially, one one octaro volume of about 275 pages, illustrated, every other month. Six numbers per year Cloth $16.00 net; paper $12.00. Each of these volumes contains surgical articles, well illustrated, by the most famous surgery of America and Europe and contains articles on almost every subject in surgery.

Every physician who is interested in surgery should be a regular subscriber to this series.

OUTLINE OF UREVENTIVE MEDICINE, FOR MEDICAL PRACTITIONERS AND STUDENTS—Prepared under the auspices of the committee on Public Health Relations New York Academy of Medicine, 21 contributors, editorial committee, F. E. Sondern, C. G. Heyd, E. H. L. Corwin. Paul B. Hoeber, Inc., publishers. Price $5.00.

Repeated requests for an outline of the practical features in the prevention of disease induced this committee to assemble and supervise the publication of this volume. Each contributor to this volume has written of the ways in which his specialty is related to preventive medicine, limtiing his contribution to saleint suggestions based on individual experience, with no attempt at text book completeness.

MEAGER—A study in Masturbation and the Psychosexual Life by John F. W. Meaher, M. D., F. A. C. P., Neurologist to St. Mary's Hospital, Brooklyn. Consulting Neurologist to the King's Park State Hospital. Ex-President of the Brooklyn Neurological Society, etc. Second revised and enlarged edition, 130 pages. $2 (1929.) Messrs. William Wood & Company, 156 Fifth Avenue Pl., New York, publishers.

Physicians, clergymen, and teachers are often consulted by parents, or the sufferers themselves, for advice in regard to disturbances which they attribute to the widely prevalent habit of masturbation. Dr. Meagher presents the essential features in very concise form. This new second edition has been prepared in response to many requests for more practical guidance, and will be found very helpful to all having charge of children. The six chapters of the original edition have been retained with some changes. Five more chapters have been added so that the volume has almost twice as many pages as before. Physicians can aid greatly in the dessemination of sane information on this difficult subject by recommending this authorative book to anxious parents and guardians and particularly to clergymen and teachers.

THE NOSE, THROAT AND EAR AND THEIR DISEASES—In original contributions by American and European authors. Edited by Esophagoscopy in the University of Pennsylvania, in the Jefferson Medical College, and in the Graduate School, University of Pennsylvania, and George M. Coates, M. D., Professor of Otology, Graduate School, University of Pennsylvania. Assisted by Chevalier L. Jackson, M. D., Assistant in Bronchoscopy and Esophagoscopy, University of Pennsylvania. Octavo volume of 1177 pages with 657 illustrations and 27 inserts in colors. Philadelphia and London: W. B. Saunders Company, 1929. Cloth, $13.00 net.

This book belongs to the highest type of medical writing, editing and publishing in this country. It is a credit not only to its authors but to its editors as well.

Such a volume with so many distinguished and internationally known authorities has never before been published

The anatomy, pathology, diseases and treatment, medical and surgical, of the nose and sinuses with a complete chapter on sinuses in children and their diagnosis and complications, with clear-cut illustrations, is the last word

Anatomy and diseases of the ear, including the surgery and complications of the mastoid operation with many beautiful illustrations cannot be improved upon at this time

The chapter on the larynx which takes up four hundred pages—a book in itself—is a classic in its field and a most reliable guide for the laryngologist. The endoscopic views and drawings of Jackson are inimitable.

DISEASES OF THE CHEST AND THE PRINCIPLES OF PHYSICAL DIAGNOSIS—By George W. Norris, M. D., Professor of Clinical Medicine in the Univversity of Pennsylania, and Henry R. M. Landis, M. D., Professor of Clinical Medicine, University of Pennsylvania; Director of the Clinical and Sociological Departments of the Henry Phipps, Institute of the University of Pennsylvania, with a chapter on the Transmission of Sounds Through the Chest, by Charles M. Montgomery, M. D., and a chapter on the Electrocardiograph in Heart Disease, by Edward Krumbhaar, Ph. D., M. D. Fourth Edition, Revised. 954 pages with 478 illustrations. Philadelphia and London. W. B. Saunders Company, 1929. Cloth $10.00 net.

No revision ever brought to us by its author has been so drastic, so thorough, so complete, so ruthless as this, in the authors' determination to have the new edition reflect absolutely the very newest approved methods in the fields covered.

The new edition of Norris and Landis' "Diseases of the Chest and Physical Diagnosis" had to be reset—because it was virtually rewritten! It would be impossible in an advertisement to give adequate appreciation of the great amount of new material and the painstaking care which this New (Fourth) Edition exhibits.

Immediately upon opening the book you will realize that you are looking into a mass of new material, a great number of new illustrations, all the new technical tests and the refinements of standard tests.

In the first section of the book the authors present physical methods of diagnosis, training the reader to interpret signs and symptoms through the eye, ear, and the sense of touch. The second section of the book takes up the actual diagnosis of diseases of the bronchi, lungs, pleura, diaphragm, pericardium, heart, and aorta. There is also a chapter on the Electrocardiograph, written by E. B. Krumbhaar.

Kentucky Medical Journal

Published Monthly By
THE KENTUCKY MEDICAL JOURNAL
Incorporated

Entered as second class matter October 22 1906, at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price $5.00
Edited Under Supervision of the Council

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COUNTY SOCIETY REPORTS

Jefferson: The June program of the Jefferson County Medical Society will be as follows:

June 2nd.

Symposium on Rectal Disturbances.

1. Pruritis Ani, Pathology and Treatment—Dr. Bernard Asman.
2. Rectal Diseases Secondary to Disturbances in the Upper Alimentary Tract—Dr. Granville S. Hanes.
3. Rectal Diseases and Abnormalities in Children.—Dr. James W. Bruce.
4. Rectal Disturbances Complicating Pregnancy.—Dr. Edward Speidel.
5. Malignancy of the Rectum. — Dr. E. S. Allen.

June 16th.

DINNER MEETING

E. F. HORINE, President.
J. C. BELL, Secretary.

Owen: The Owen County Medical Society met on Feb. 27th and elected the following officers for 1930:

J. H. CHRISMAN, Owenton, President.

J. W. BOTTS, Owenton, Vice-President.

K. S. McBEE, Owenton, Secretary and Treasurer.

GEO. PURDY, New Liberty, Delegate to State Society.

J. H. CHRISMAN, Owenton, Alternate Delegate State Society.

The following paid their dues. Drs. J. H. Chrisman, J. W. Botts, A. E. Threkeld, George Purdy and K. S. McBee.

K. S. McBEE, Secretary.

Cumberland: Dr. W. C. Keen, the oldest physician in Cumberland County both in point of years and practice, died after a brief illness of a few days, April 1st 1930, at his home. He was active in the profession up to his death. A graduate of the University of Tennessee 1880, practiced at Rowena, about two years, Albany, for about 11 years, then at Glasgow, finally settling in Burkesville, where he has been actively engaged in the profession for 25 or 30 years. At the time of his death he was a member of Cumberland County Medical Society, the State Medical Society, A. M. A. Health officer for Cumberland County and secretary of the Cumberland County Medical Society.

The Society mourns his loss.

And so on this day of commemoration we remember and say farewell to our hero, and in doing so we cannot do better than repeat the words of Handel's lovely anthem, which was sung by the boys' choir at his funeral in Westminster Abbey: "When the ear heard him, then it blessed him, and when the eye saw him it gave witness of him; he delivered the poor that cried, the fatherless, and him that had none to help him . Kindness, meekness and virtue were on his tongue. If there was any virtue, and if there was any praise, he thought on those things. His body is buried in peace, but his name liveth for evermore among our people."

William Fayette Owsley.

Franklin: The Society met in regular monthly session on Thursday, December 5th, 1929, at 12 o'clock noon, in the Writing Room of the Capital Hotel. Members present were: Drs. Youmans, Stewart, Coblin, Travis, Darnell, Jackson, Ginn, Patterson, Wilson and Minish. Dr. John Patterson, the President, presiding.

The minutes of the previous meeting were read and approved.

Dr. J. P. Stewart was recognized and made a talk on the coming campaign for the sale of Christmas Seals. Dr. Stewart being Chairman of the campaign, first-hand information was given the Society concerning the benefits the indigent tubercular patients in the County would receive.

A motion was made by Dr. F M. Travis, and seconded, and unanimously carried that the Society indorse the worthy cause of the Christmas Sale of stamps.

It was voted that at the January meeting we take up the question of making a survey of the County for tuberculosis.

The election of officers for 1930, resulted in the following:

Dr. John Patterson, re-elected President.

Dr. A. M. Jackson, Vice-President.

Dr. L. T. Minish, Secretary-Treasurer.

Dr. F. M. Travis, Delegate to the State Meeting.

Drs. Coblin, Coleman and Ginn, Censors.

Following the business meeting, Mr. George H. Schmitter, representative of the Petrolagar Laboratories, Inc., Chicago, Ill., demonstrated with a moving picture reel, "The Influence of Drugs on Gastro-Intestinal Motility."

The Society then adjourned to the Hotel Dining room for lunch.

L. T. MINISH, Secretary.

Franklin: The Franklin County Medical Society met Thursday February 6th, 1930, at the Capital Hotel, 12 o'clock noon. The Society was called to order by the President, Dr. John Patterson.

Members present were: Drs. Patterson, Travis, Ginn, C. T. Coleman, Youmans, Demaree, Jackson and Minish.

The Society unanimously adopted the motion of Dr. C. T. Coleman, that a request in the form of a resolution be presented to the City Council, that they exempt physicians from the penalties of the one hour parking ordinance.

Drs. Coleman, Budd and Jackson were appointed by the president to present the request to the City Council.

Dr. C. T. Coleman, made a motion which was duly seconded and carried unanimously, that the Society indorse the movement of adding more rooms to the King's Daughters Hospital.

Dr. O. B. Demaree had charge of the program and presented the Society with a well prepared paper, giving his accumulated experience of thirty-five years, in the management and treatment of pneumonia, which brought out a wealth of discussion from most all members present, after which the Society adjourned to the Hotel Dining Room for lunch.

L. T. MINISH, Secretary.

Franklin: The Franklin County Medical Society met Thursday, March 6th, 1930, at the Capital Hotel, 12 o'clock noon.

The Society was called to order by the President, Dr. John Patterson.

The following members were present: Drs. Jackson, Ginn, Darnell, Budd, Coblin, Roemele, C. T. Coleman, Patterson and Minish.

Guests: Misses Johnson and Sellers from the King's Daughters' Hospital.

Dr. Darnell had charge of the program and presented Dr. G. A. Hendon, of Louisville. On motion of Dr. Budd, which was duly seconded and carried, reading of the minutes of the previous meeting were dispensed with in order to give Dr. Hendon more time.

Dr. Hendon gave the Society a talk, with lantern slide demonstration, on his bone key method that he has evolved in the setting and holding of all long bone fractures. This being an open operation many questions were asked the speaker, and answered by Dr. Hendon, concerning his bone key method. All present were very much interested as the subject of fractures is a very important one.

The Society then adjourned to the Hotel Dining Room for lunch.

L. T. MINISH, Secretary.

Franklin: The Franklin County Medical Society met in regular session at the Capital Hotel April 3, 1930, at 12 o'clock noon.

Dr. John Patterson the President called the meeting to order.

The following members were present: Drs. Romele, Jackson, Youmans, Stewart, Budd, Coblin, C. T. Coleman, Patterson and Minish.

The minutes of the March meeting adopted as read. A discussion of the Williamson Bill now pending in the U. S. Senate, concerning the use of medical liquors followed, after which Dr. G. A. Budd, moved that the Society go on record as opposing the bill, motion was seconded by Dr. E. C. Roemele and unanimously adopted. The Secretary with the assistance of Dr. John P. Stewart, was to write a letter to Senator Albin

W. Barkley, sending him a copy of the Society's action.

Dr. John P. Stewart reported that the Red Cross Tubercular Clinic would be held in Frankfort on April the 15th and 16th, 1930, under the supervision of Dr. Lock, also that another public health nurse would be added to the local staff of health nurses.

Dr. Lock was to have been present and address the Society, but could not attend on account of his holding a clinic in Georgetown on this date.

Dr. E. C. Roemele made a motion which was seconded and carried unanimously that Dr. John P. Stewart be assisted in every way possible by the Society in holding the clinic, that the members attend the clinic as much as possible and aid in every way.

The Society then adjourned to the Hotel Dining Room for lunch.

L. T. MINISH, Secretary.

Pike: It is quite gratffying to be able to report that the Pike County Medical Society may now be added to the list of County Societies with a Womans' Auxiliary. This Auxiliary was organized on May 6th in the reception room of the Methodist Hospital in Pikeville.

Mrs. P. E. Blackerby President of the State Auxiliary, presided over the organization meeting which resulted in the election of Mrs. F. W. Forge, President; Mrs. H. H. Stallard, Vice-President; Mrs. Paul Gronerud, Secretary and Treasurer.

After addresses by Mrs. Blackerby and Dr. A. T. McCormack, Secretary of the State Medical Association the meeting adjourned and the ladies were served with delightful refreshments by the Superintendent and nurses of the Hospital Training School.

The Pike County Medical Society may well be proud of its Auxiliary for its membership includes many of the outstanding women leaders of the county and it is safe to predict that these fine professional partners in this organization will have a most beneficial influence on the County Society.

The Pike County Health Department deserves every commendation for the fine showing it made in the celebration of May Day. Open air programs were conducted in Pikeville and Stone and approximately seven hundred children qualified for blue ribbons in recognition of their having attained the required standards of health.

Dr. Blackerby addressed an audience of fifteen hundred people on the Court House square on May 6—and nearly as large an audience heard Dr. McCormack the next day at Stone.

The County Society and the Woman's Auxiliary are co-operating in a splendid way with the full time health department and the people of Pike County are the beneficiaries of an outstanding Public Health service.

Letcher: The Letcher County Medical Society bids fair to have the most successful year in its history. Out of 26 physicians in the County 22 are active members and the regular monthly meetings are being featured with unusually good programs. The Society is supporting the full time County Health Department in a way that will merit the good will and confidence of every citizen of the County. On May third the Health Department conducted a May Day Child Health program in Whitesburg which attracted a large crowd of people from different sections of the County. Under the leadership of Dr. R. Dow Collins, County Health Officer and Secretary of the County Medical Society a fine program was carried out. This began with a beautiful parade, participated in by children from many schools and including a long line of beautifully decorated floats. A large assembly at the City High School was addressed by Dr. B. F. Wright, President of the County Board of Health, Dr. A. T. McCormack, State Health Officer and Dr. P. E. Blackerby. Under the supervision of Dr. Bert Bach of Whitesburg, prizes were awarded the owners of the most attractively decorated floats. Blue ribbons were pinned on 224 Blue Ribbon children by County Judge John D. Sergent.

After the exercises a number of physicians and visitors drove to the top of beautiful Pine Mountain where the most gorgeous mountain view in this country may be seen.

At 6:30 in the evening the Society met in banquet session at the Daniel Boone Hotel with approximately every member present; nine charming wives of doctors graced the occasion with their presence and the guest list included the dentists of Whitesburg and the four public Health nurses of Letcher and Perry Counties.

The meeting was addressed by Drs. A. T. McCormack and P. E. Blackerby of the State Board of Health, after which the session adjourned and the ladies reassembled for an Auxiliary organization meeting of the doctors wives. This was addressed by Mrs. R. L. Collins, of Hazard, and Dr. McCormack.

The Woman's Auxiliary to the Letcher County Medical Society makes the twenty-ninth Auxiliary to be organized in the State and with such an auspicious beginning bids fair to keep apace with the County Medical Society. Its officers are:

Mrs. Thomas Jennings, President, Whitesburg; Mrs. Edwin F. Shepperd, First Vice-President, Jenkins; Mrs. A. A. Weddle, Second Vice-President, Blackey; Miss Mary M. Hall, Secretary-treasurer, Whitesburg.

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KENTUCKY MEDICAL JOURNAL

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Being the Journal of the Kentucky State Medical Association
Published Monthly under Supervision of the Council
Editorial and Business Office, Corner State and Twelfth Streets. Subscription Price, $5.00 Single Copy, 50 cents
Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 8, 1917, authorized May 25, 1920.

VOL. XXVIII. BOWLING GREEN, KY., JULY, 1930 No. 7

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Ready—New Mayo Volume

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A famous athletic trainer always permits his men to eat all the ice cream they want. A well-known physician in Philadelphia often advises business men who are his patients to drop in at a soda fountain in the late afternoon and drink a flavored milk shake. Fatigue and nervousness are overcome and dinner is eaten later with calm enjoyment.

Such endorsement of sugar should not be overlooked. Too often home diets are lacking in this important food. The use of sugar may help in overcoming loss of appetite and in promoting indirectly a more balanced and varied diet.

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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. XXVIII. BOWLING GREEN, KY., JULY, 1930 No. 7

EDITORIALS

THE CUMBERLAND VALLEY MEDICAL SOCIETY

"I will lift up mine eyes unto the Hills from whence cometh help."

Those county societies whose interest is waning would do well to have their secretaries attend one of the meetings of the Cumberland Valley Medical Society, which embraces the counties of Laurel, Whitley, Bell, Knox and Harlan. In these counties there are 106 doctors of whom 86 were present at this meeting.

Through the untiring efforts and leadership of its president, Dr. J. G. Foley, and its secretary, Dr. O. P. Nuckols, both of Pineville, one of the best and most inspiring meetings of this association was held in Williamsburg and Corbin, on May 7th. In preparing for this meeting the officers co-operated with the Young Men's Christian Association in Corbin and supplied a speaker on Public Health in every school in Corbin. In Williamsburg prior to the meeting, a speaker addressed the Cumberland College and the graded schools on the prevention of Scarlet Fever, and as a result of this, 800 students volunteered the Dick Test for Scarlet Fever. Free posters were distributed in both towns advertising the Scarlet Fever Clinic and the Heart Clinic. The meeting opened at 10 A. M. on May 7th. Dr. J. F. Jones of the Department of Epidemiology of the State Board of Health, assisted by Dr. L. H. South, Mr. E. H. Sandlin, Mr. J. C. Hall, Miss Turner and Miss Short, gave a demonstration on the Dick Test and exhibited many cases that showed a positive reaction. Dr. E. F. Horine, Dr. O. P. Nuckols and the physicians of Corbin, Williamsburg and Jellico, Tenn., conducted a Heart Clinic in the Cumberland College Gymnasium—650 cases were examined and advised to consult their own physicians for treatment.

A ten course dinner was served in the Gentry Hotel and Dr. J. G. Foley gave the presidential address. The society then reassembled in the Christian Church and Drs. Hayes Davis and Irvin Abell, of Louisville, discussed the medical and surgical treatment of ulcer. Drs. E. F. Horine and O. P. Nuckols gave a lantern-slide talk on heart disease, followed by exhibition of six cases showing various heart lesion. Dr. L. L. Terrell, of Corbin, gave a very fine paper on "Jake Leg," assisted by physicians in Corbin. These physicians have had more cases of "Jake Leg" paralysis due to Jamaica Ginger, than any other physicians in the United States. They exhibited 15 clinical cases and it was most distressing to see these fine young men partially paralysed over night from drinking this abominable concoction.

Through the courtesy of Parke-Davis Company, of Detroit, two moving pictures were shown on the preparation of biologicals on a day-light screen.

Dr. J. D. Allen, of Louisville, gave a most interesting chart demonstration of the new Schilling Blood Count. This blood count is probably one of the most valuable contributions to clinical diagnosis that has been discovered in recent years, and so favorably impressed were the doctors with Dr. Allen's talk that they requested he present this paper at the State Meeting in Bowling Green.

The Woman's Auxiliary did not shine in lesser light at this meeting. Mrs. Buck, the president of the Whitley County Medical Auxiliary, was hostess of the day. The meeting was called to order at the residence of Mrs. H. H. Tye, with 35 members present. In honor of Mrs. Irvin Abell and Mrs. Hayes Davis, a luncheon was served at the Gentry Hotel, after which the ladies of Williamsburg, arranged an automobile ride through the Narrows to Jellico, Tenn., where a tea was given by Mrs. Harkness and Mrs. Hefferman. At 6:30 o'clock a motor cavalcade composed of the Mayor and City Commissioners of Corbin, arrived in Williamsburg to escort Dr. and Mrs. Irvin Abell, Dr. and Mrs. Hayes Davis, Dr. E. F. Horine, and Dr. J. D. Allen, to Corbin, where a banquet was served to all the visiting physicians. Dr. Abell addressed the citizens of Corbin and Cumberland Valley Medical Society at the Hippodrome, on the "Value of Public Health." A 75 piece orchestra, composed of the young men and women from the various schools of Corbin, also gave a musical program.

The fine attendance at this meeting in which the public of both Williamsburg and Corbin participated, demonstrates that if any secretary will give the time and labor to arrange a good meeting as did Doctors Foley, Nuckols, Moss and Terrell, scientific medicine and public health will reach every fireside in Kentucky.

After the meeting Mr. and Mrs. Calvert, of Corbin, entertained the visiting guests until the Louisville train left at 12:30 A. M.—"The end of a perfect day."

ANOTHER KENTUCKIAN HONORED

Dr. John H. Blackburn, Bowling Green, has been reappointed Councilor of the Southern Medical Association from Kentucky, the appointment having been made recently by the President of the Association, Dr. Hugh S. Cumming, Washington, D. C. The Council acts as a Board of Censors and Executive Committee and is composed of one physician from each Southern state comprising the Association. The term of a Councilor is three years, an equal number expiring each year.

POST GRADUATE COURSE

In this Journal the Kentucky State Medical Association announces its annual Post Graduate Course, to be held at the City Hospital in Louisville, July 7th to 19th inclusive. The members of the State Association, the alumni of the University of Louisville and members of other state medical associations, are cordially invited to take part in the course.

Doctor Barbour and his associates are presenting this time a departure from the course of previous years. The several specialties in medicine will all be represented and those interested in any one of them will have an opportunity to devote practically their whole time to any special type of work.

The course will include Obstetrics, Orthopedics, Dermatology, Urology, Neurology, Proctology, Eye, Ear, Nose and Throat, Tuberculosis, X-ray, Pathology, Anesthesia, Internal Medicine and Laboratory Procedures. The State Board of Health has kindly offered to supply microscopes so that each physician may have his own instrument. In the Scarlet Fever demonstration there will be an opportunity to read the various phases of the Dick test and to personally give this test. Headquarters will be at the hospital, and mail will be carried forward to this point. The cost of the whole course is $1.00, which pays for the registration and certificate of attendance which will be issued to those present.

Louisville at this time of the year offers many attractions for the visiting physicians. The privileges of the four golf courses will be extended through the members of these clubs to all physicians attending the school. Louisville has many places of amusement, including theatres, where cooling systems are installed, in order that the patrons may enjoy many pleasant hours during the hot summer weather. The offices of the Kentucky State Medical Association and the State Board of Health, at Sixth and Main Streets, will be open for inspection and visitation. Any further advice or information can be obtained by writing Doctor Philip F. Barbour, Louisville, Kentucky, chairman of the Post Graduate Course. Observation clinics in various hospitals will be held from 8 to 9 each morning by any group upon request.

The following staff have been secured to conduct this course:

Urological Staff

Dr. J. A. Bowen, Dr. J. R. Stites,
Dr. Owsley Grant, Dr. S. C. McCoy,
Dr. D. L. Hill.

Tuberculosis Staff

Dr. O. O. Miller, Dr. Paul Turner,

Neurological Staff

Dr. W. E. Gardner, Dr. J. J. Moren,
Dr. Frank O'Brien.

Pediatric Staff

Dr. Philip Barbour, Dr. J. W. Bruce,
Dr. J. H. Pritchett.

Dental Staff

Dr. E. C. Hume.

Medical Staff

Dr. R. Hayes Davis, Dr. V. E. Simpson,
Dr. W. A. Jenkins, Dr. Morris Flexner,
Dr. J. W. Moore, Dr. S. C. Frankel.

Proctologic Staff

Dr. G. S. Hanes, Dr. Bernard Asman,
Dr. M. H. Pulskamp, Dr. W. E. Applehaus

Orthopedic Staff

Dr. Barnett Owen Dr. Orville Miller

Dermatological Staff

Dr. W. J. Young, Dr. C. B. Willmott

Pathological Staff

Dr. A. J. Miller

Scarlet Fever Demonstration

Dr. J. F. Jones, Dr. L. H. South,
E. H. Sandlin and Laboratory Personnel

X-Ray and Radium

Dr. D. Y. Keith

Ear, Eye, Nose and Throat Staff

Dr. Walter Dean, Dr. Claude T. Wolfe,
Dr. G. E. Vaughan, Dr. A. L. Bass,
Dr. S. W. Weinberg, Dr. S. G. Dabney

Obstetrical Staff

Dr. Alice Pickett, Dr. S. H. Starr,
Dr. W. T. McConnell, Dr. H. M. Rubel,
Dr. Edward Speidel.

Anaesthesia

Dr. W. Hamilton Long

SURGICAL STAFF

Dr. Geo.A. Hendon—Surgery of Intestional Obstruction, Venaclysis. Bone Keys.

Dr. Irvin Abell—Surgery of the Liver, Gall-Bladder, Bile-Ducts and Pancreas, Surgery of the Stomach.

Dr. Jno. R. Wathen—Cancer of the Colon, Surgery of the Neck and Thyroid Gland.

Dr. Guy Aud—Surgery of the Breast and Esophagus.

Dr. Wallace Frank—Surgery of the Thorax, Empyema, Bronchi, Etc., Surgery of the Large and Small Intestine (Exclusive of Cancer).

Dr. Frank Strickler—Varicose Veins, Blood Transfusions, Fractures.

Dr. B. F. Zimmerman—Brain Tumors, Facial Neuralgias.

LABORATORY STAFF

Dr. H. V. Noland, Dr. L. H. South.

THE KENTUCKY STATE MEDICAL ASSOCIATION

Summer Post Graduate Course—General Program

FIRST WEEK—JULY 7-12

Hour	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9-10	Noland Laboratory	Miller and Horine Physical Diagnosis	Noland Laboratory	Miller and Horine Physical Diagnosis	Noland Laboratory	State Board of Health Laboratories Demonstration of Prevention and Treatment Scarlet Fever Dick Test
10-11	Noland Laboratory	Miller and Horine Physical Diagnosis	Noland Laboratory	Miller and Horine Physical Diagnosis	Noland Laboratory	
11-12	Gardner Malarial Treatment of Paresis Wathen Goitre	Simpson Diabetes Zimmerman Facial Neuralgias	Frankel Pneumonia Wathen Cancer, Colon	Pritchett Communicable Diseases Zimmerman Brain Tumor	Simpson Diabetes Aud Breast Esophagus	
12-1	Moore Ward Rounds	Sherrill Surgery of Stomach	Prichett Infectious Diseases Strickler Varicose Veins	Moore Ward Rounds Sherrill Gall Bladder Liver, Pancreas	O'Brian Psychiatry Frank Thorax Empyema	
1-2	LUNCH HOUR					
2-3	Jenkins Pernicious Anemia	Jenkins Hypertension	Long Anesthesia	Bass Sinus Disease Jenkins Clinical Pathology	Lunch at Children's Free Hospital Clinical Cases	At Leisure
3-4	Flexner Meningitis	Moren Epilepsy	Gardner Confusional States	Moren Nervous Clinic		
4-5	Hendon Venaclysis	Keith X-Ray Radium	Hendon Intestinal Obstruction	Hendon Bone Keys		

SECOND WEEK—JULY 14-19

Hour	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9-10	Dean Nose and Throat Owen Orthopedic Speidel Obstetrics G. U. Clinic Hanes Rectal	Vaughan Nose and Throat Owen Orthopedic McConnell Obstetrics G. U. Clinic Asman Rectal	All Day	Miller Orthopedic Rubel Obstetrics Bowen G. U. Applehaus Rectal	Weinberg Nose and Throat Starr Obstetrics Hill G. U.	At Leisure
10-11	Grant G. U. Hanes Rectal	Stites G. U. Hume Dental Asman Rectal	Trip to	McCoy G. U. Reducing Diet R. Hayes Davis Applehaus Rectal	Hill G. U. Pulskamp Rectal	
11-12	Miller Pathology Grant G. U. Hanes Rectal	Asman Rectal Stites G. U.	Waverly Hill	Miller Pathology McCoy G. U. Applehaus Rectal	Pulskamp Rectal Hill G. U. Pediatrics Clinic	
12-1	Frankel Pneumonia Strickler Blood Transfusion	Turner Periodic Examinations Frank Surgery of Intestines	Sanatorium and Lunch	Frank Surgery of Intestines	Turner Periodic Examination	
1-2			LUNCH HOUR			
2-3	G. U. Clinic Eye Clinic Young Skin Obstetrics Applehaus Rectal	G. U. Clinic Skin Wolfe Eye Applehaus Rectal Pickett Operative Obstetrics		G. U. Clinic Pulskamp Rectal Salvarsan Staff Obstetrics	G. U. Clinic Pulskamp Rectal Nose and Throat Dabney Starr Obstetrics	At Leisure
3-4	Wolfe Eye Lecture McCoys G. U. Applehaus Rectal	Wolfe Clinic Stites G. U. Applehaus Rectal		Bowen G. U. Pulskamp Rectal	Hill G. U. Pulskamp Rectal	
4-5	Bruce Infant Feeding	Bruce Infant Feeding		Barbour Ileocolitis	Barbour Ileocolitis	

UROLOGICAL POST GRADUATE COURSE

Second Week—July 14-18

	Monday	Tuesday	Thursday	Friday
9-10	Operative Clinic and Ward Rounds			
10-11	Dr. Grant			
11-12	Lecture—Dr. Bowen. Important factors in Urinary Examination	Lecture—Dr. Stites. Early symptoms and differentiation of Prostatic Disease	Lecture—Dr. McCoy. The treatment of kidney infections	Lecture—Dr. Hill. The treatment of bladder and urethral disease
2-3	Out Patient Clinic—Diagnostic and Cystoscopy			
3-4	Dr. Mc Coy	Dr. Stites	Dr. Bowen	Dr. Hill

ORTHOPEDIC POST GRADUATE CLINIC

Second Week—July 14-18

	Monday	Tuesday	Thursday	Friday
9-10	Fracture of hip: Intra-capsular Extra-capsular	Tuberculous spine Tuberculous hip Tuberculous knee Dr. Owen and Staff	Prevention and treatment of deformities following infantile paralysis	Postural Deformities

DERMATOLOGICAL POST GRADUATE COURSE

Second Week

	Monday	Tuesday	Thursday	Friday
2-3	Diagnosis of Skin Lesions		Administration Salvarsan	
	Drs. Young and Willmott			
10-11	Monday and Thursday Gross Pathology Demonstration—Dr. A. J. Miller			

EYE, EAR, NOSE AND THROAT POST GRADUATE COURSE

Second Week—July 14-18

	Monday	Tuesday	Thursday	Friday
9-10	Operative Nose and Throat Clinic Dr. Dean	Operative Nose and Throat Clinic Dr. Vaughn		Operative Nose and Throat Clinic Dr. Weinberg
2-3	Out Door Eye Clinic Dr. Wolfe	Eye Operative Clinic Dr. Wolfe	Sinus Disease Dr. Bass	Didactic lecture on Nose and Throat Dr. Dabney
3-4	Didactic lecture on Eye Dr. Wolfe			

OBSTETRIC POST GRADUATE COURSE

Second Week—July 14-19

	Monday	Tuesday	Thursday	Friday
9-10	Lecture—Dr. Edward Speidel	Lecture—Dr. McConnell	Lecture—Dr. Rubel	Lecture Dr. Starr
2-3	Demonstration Obstetric Staff	Manikin Demonstration Dr. Pickett	Demonstration Obstetric Staff	Post Partum Clinic Dr. Starr

PROCTOLOGIC POST GRADUATE COURSE

Second Week—July 14-18

	Monday	Tuesday	Thursday	Friday
9 to 11	Operative Clinics and Ward Rounds			
	Dr. Hanes	Dr. Asman	Dr. Applehaus	Dr. Pulskamp
11-12	Lecture—Dr. Hanes Pruritus Ani and Rectal Stricture	Lecture—Dr. Asman Anorectal Abscess	Lecture—Dr. Applehaus Interrelation between Rectal Diseases and Remote Disorders	Lecture—Dr. Pulskamp Rectal examinations Including Proctoscopy
		LUNCH HOUR		
2-3		Out Patient Clinic—Diagnostic		
3-4	Dr. Applehaus		Dr. Pulskamp	

SURGICAL POST GRADUATE COURSE

First Week—July 7-12

	Monday	Tuesday	Wednesday	Thursday	Friday
11-12	Wathen Goiter	Zimmerman Facial Neuralgia	Wathen Cancer of Colon	Zimmerman Brain Tumor	Aud Surgery of Breast and Esophagus
12-1		Sherrill Surgery of Stomach	Strickler Varicose Veins	Sherrill Gall Bladder, Pancreas, Liver	Frank Thorax Empyema

Second Week—July 14-19

12-1	Strickler Blood Transfusion	Frank Surgery of Intestines		Frank Surgery of Intestines (not cancer)	

SCIENTIFIC EDITORIAL

MULTIPLE NEURITIS

The present epidemic of multiple neuritis that has spread over the United States presents a picture that has not been equaled in this country, and possibly surpasses the experience in England when they had an epidemic of approximately four thousand cases which resulted from arsenic found in the beer.

The clinical picture conforms to the motor type of multiple neuritis, the sensory symptoms being very slight, and shown mostly as a diminution of light touch.

The cause of this epidemic has not been determined. It cannot be alcohol alone, because young individuals not alcoholics fell victims to one bottle of ginger. Possibly a combination of a certain substance with alcohol might be more poisonous to the peripheral nerves.

Gowers thought the arsenic in beer was more detrimental than either one alone. Some twenty years ago I saw a most complete polyneuritis, involving face, abdominal muscles, and even the sphinctors. She became pregnant, began drinking, and took an abortive (Parsley). The amount of alcohol consumed was not sufficient to satisfy me that it was the sole cause.

A well developed case of multiple neuritis means many months of invalidism, and a review of the management of these cases is a timely topic. Multiple neuritis is one nervous disorder that is usually gratifying to the physician, because a good per cent make a complete recovery. The unfortunate part is that it requires a long, drawn out treatment. The average duration is more than a year. To understand the slow progress of recovery it is commonly said that a nerve will regenerate about as fast as the hair grows.

In the early stages elimination is advocated by all, but our drugs are few that actually eliminate the various poisons. Many of the cases occur from causes that are unknown, and we are left with general measures which include laxatives, salycilates, alkalies, etc. Even though we remove any possible cause it does not bring back the function of the nerve. We are simply preparing the patient from further progress of the neuritis and to favor regeneration.

All authors agree that rest in bed is essential. Efforts in walking not only retard regeneration, but puts an undue tax upon the ligaments, tendons, and muscles which disturb their function and lend to painful joints.

During the first two to four weeks in the average case, some measures to relieve pain and tenderness are required, but many of the cases have so few sensory symptoms that this is not necessary.

After the subsidence of irritative symptoms the patient starts in on a long period of invalidism, and it is the attention given at this time that is most important to the individual.

In addition to rest he should be well fed, and any physical state, as anemia, etc., should be combatted.

The medication depends upon general indications. After the acute stage few drugs are used. Intermittent courses of strychnia are useful. Arsenic and phosphorous, etc. are advocated. If the patient is eating well and all body functions are natural it seems little medication is needed. You cannot hasten regeneration by medicine, but you can aid nature in the process.

As for the treatment of the paralysis, there are two, and possibly three, measures that all authorities have confidence in. These are electricity, massage, and hydrotherapy. Electricity is of service, but is often unobtainable, while massage, and some type of baths can be arranged in any home.

Massage is the exercise for the lazy man and paralytic. It favors circulation of blood and lymph to the parts that cannot be moved. Rubbing the skin does not constitute massage, you want kneeding of muscles.

As for hydrotherapy, if possible some type of bath that would favor the skin elimination is worth while. Even the plain tub bath maintained at a temperature from 90 to 96, the so-called normal bath, can be used with comfort and advantage to the patient. In the absence of these facilities, the pack can be substituted and have equally as good results, but used with more caution. The object of these procedures is tonic, eliminative, and improving the general nutrition.

As to the electric current, the choice is the galvanic, using sufficient current when interrupted to cause a muscular contraction. Stimulation of the paralized muscles by the galvanic current helps to retain the contracted power of the muscles, maintains its nutrition to a degree, thereby preventing to some extent the atrophic changes that naturally follow an interruption of the motor nerve. When the nerve regenerates it hitches up to a muscle that is in a better condition.

A very serviceable battery can be made from the ordinary dry cell hooked up in series, or the heavy duty radio dry cell battery B can be used. If an interrupted electrode cannot be had, the current could be run from the back to the feet for a period of ten or fifteen minutes. Too strong a current should not be used. A mild current for a long sitting is much better than a strong current for a short sitting. Personally, I am satisfied that such treatment is of material benefit in all types of neuritis.

The only complication that is likely to arise in these cases is the various types of contractures, consequently these patients should have their limbs placed and maintained in as natural position as possible. It is a recognized fact that paralyzed muscles from nerve injuries do better when placed at rest in a natural position. The weight of the bed clothes should not press upon the feet to cause extension of the foot. Sand bags could be so adjusted to hold the limb from falling to one side or the other.

One of the most profound contractures I have ever seen occurred in a young man who sat in a chair all day long, never attempting to extend his legs from the knee. The sitting position favors oedema of feet, and causes farther nutritional disorder of joints.

These patients become tired of the bed and want to sit up. Such changing of position make them more comfortable. They should be changed frequently and the limbs never to remain in one position day in and day out.

The massage and Sweedish movements help to overcome these deformities. I am glad to say that most of these have occurred in individuals who have failed to counsel with their physician, consequently they are from neglect, more than from faulty treatment.

If the proper attention is not given to the muscles the atrophic changes are so marked that even if the nerve regenerates there is no function. A situation similar to that in Volkman's paralysis.

When can patient begin walking? If a patient can stand and hobble around it is hard to keep them at complete rest. Taking a few steps cannot do any great damage, but the time spent on the feet should be governed by the degree of paralysis, and discomfort that follows. If all the muscles in the lower leg and foot are paralyzed he should stay off of the feet. After several months with the return of some motion slight effort really aids progress, but fatigue must be avoided. These individuals are to be managed, and common sense must be exercised by all. No hard and fast rules can be followed.

J. J. MOREN.

OFFICIAL ANNOUNCEMENTS

PRELIMINARY PROGRAM KENTUCKY STATE MEDICAL ASSOCIATION, SEPTEMBER 15-18, 1930

TUESDAY A. M.—GENERAL SESSION

9:45 A. M.-12:15 P. M.

Treatment of Rheumatic Fever in Childhood.

Present Day Conception of Pulmonary Tuberculosis in Infancy and Childhood.

Chronic Suppurating Ears.

GENERAL SESSION

1:30 P. M.-5:30 P. M.

Symposium on Minor Procedures Requiring Major Precautions:

- Dilation and Curettage of the Uterus.
- Tonsillectomy.
- Intravenous Medication.
- Spinal Puncture.

Treatment of Recent Nasal Fracture.

Abdominal Pain from Causes Other Than Lesions of the Abdominal Viscera, in Acute Illness.

Abdominal Pain from Causes Other than Lesions of the Abdominal Viscera, in Chronic Illness.

WEDNESDAY A. M.—MEDICAL SESSION

9 A. M.-12:15 P. M.

Pernicious Anemia.

Fetal Liver Feeding in Aplastic Anemia.

Diet in Chronic Nephritis.

Serum Re-injection Therapy in Morphine Addiction.

The Recent Outbreak of Polyneuritis. (Attributed to Jamaica Ginger.)

Malaria Therapy in Paresis.

SURGICAL SESSION

9 A. M.-12:15 P. M.

Non-malignant Tumors of the Breast.

Malignant Tumors of the Breast.

Should Resection of the Colon be a One-Stage or Two-Stage Operation?

Mechanism of Death in Intestinal Obstruction.

Modern Prostatectomy.

Factors of Safety in Thyroid Surgery.

WEDNESDAY P. M.—GENERAL SESSION

1:30 P. M.-5:30 P. M.

Symposium on Pitfalls in Therapy:

- In the Use of Iodine in Thyroid Disease.
- In the Use of Arsphenamines.
- In the Use of Digitalis.
- In the Use of Circulatory Stimulants.

The Schilling Blood Count.

What the General Practitioner Should Know About Injuries to the Eye.

Treatment of Lobar Pneumonia.

THURSDAY A. M.—MEDICAL SESSION

9:00 A. M.-12:15 P. M.

Influence of Etiology on Prognosis of Heart Disease.

Neuroses Referred to the Heart.

The Failing Heart of the Fifth and Sixth Decades: Its Management.
(Arteriosclerotic Heart Disease)

The Crater in the X-Ray Diagnosis of Peptic Ulcer.

The Treatment of Peptic Ulcer.

The Management of the Diabetic in His Home.

Surgical Session
9:00 A. M.-12:15 P. M.

Foreign Bodies in Air Passages.

Gynecologic Treatment by Electro-therapeutic Means.

Operation for Vesico-Vaginal Fistula.

Diagnosis and Treatment of Acute Osteomyelitis.

Liver Function Tests and Cholecystography in Relation to Gall Bladder Surgery.

Diagnosis and Treatment of Acute Pancreatitis.

Thursday P. M.—General Session
1:30 P. M.-5:30 P. M.

Pregnancy in Thyroid Disease.

Pregnancy in Heart Disease.

Pregnancy in Pulmonary Tuberculosis.

Control of Pain in Labor.

Film—Treatment of Normal Breech Presentation.

FRUIT AND FLOWER WORK

Working with the Fruit and Flower Guild of Louisville, the Woman's Auxiliary to the Jefferson County Medical Society, will receive donations of flowers, fruits, vegetables, jellies and preserves for distribution to the shut-ins and the poor of the city, the second Monday morning of every month from 9 to 10 o'clock in the lobby of the Rialto Theatre on Fourth Street. Mrs. George A. Hendon is chairman of this work and will greatly appreciate your contributions which will bring joy and the breath of a garden, to patients in hospitals, shut-ins at home, members of old ladies' homes and children in orphanages.

Surgical Shock—Fohl and Schneider discuss the causes and the treatment of surgical shock. They stress the importance of proper breathing during the administration of the anesthetic and urge that it be developed before operation, for which purpose they employ the breathing mask of Pech. A good circulation is ensured by the proper use of such drugs as digitalis, strychnine and caffeine; subcutaneous infusions (subpectoral of a dextrose and calcium chloride solution; careful selection of the anesthetic; avoidance of psychic shock; careful handling of the tissues, and thorough hemostasis.

ORIGINAL ARTICLES

SYMPOSIUM ON EPIDEMIC CEREBROSPINAL MENINGITIS

NEUROLOGICAL MANIFESTATION AND CLINICAL COURSE OF EPIDEMIC CEREBROSPINAL MENINGITIS*

By John J. Moren, M. D., Louisville.

In cerebrospinal meningitis we are confronted with an infectious disease in which the organism attacks the inner covering—the pia mater—of the brain. This organism has been found in the blood stream, consequently the clinical course is that of a constitutional infection with special meningeal symptoms. The same question is presented in infantile spinal paralysis, constitutional and spinal cord symptoms.

The incubative period is indefinite, therefore, unreliable. Invasive symptoms are uncertain, and may be confused with any acute infectious disease.

The study of epidemic meningitis in the army showed that prodromal symptoms, as aches, slight fever, chilliness, malaise, frequently occur, and that the onset is not so acute or abrupt as was usually thought. Such close observation is not always possible in private practice, and the physician is called at the onset when prodromal symptoms are likely to be forgotten, or attributed to a "cold."

As in other infectious and toxic conditions, the onset in children may be a convulsion, with fever and possibly chills. Convulsions are not as common in adults.

From toxemia and hyperemia various phases of delirium may be an early symptom, but the most common symptom in the onset is headache, increasing in intensity with the development of the disease.

Projectile vomiting may usher in the attack or accompany headache, convulsions or delirium.

One of the characteristics of epidemic cerebrospinal meningitis is the early and rapid development of meningeal signs.

In meningitis from tuberculosis, syphilis, ear disease, pneumonia, etc., the patients do not have such rapid development of meningeal symptoms. In fact, in many they are very mild in comparison to the other physical findings. This rapid development of meningeal symptoms is attributed to the specific reaction of the meningococcus.

The outstanding meningeal sign is stiffness of neck. If one attemps to raise the head it may cause the pupils to dilate, a cervical sympathetic irritation. The Brudzinski sign may be present. As the inflammatory process spreads and involves the spinal meninges this stiffness may become general and then the Kernig sign—a spinal meningeal sign—becomes typical. At this stage muscle aches, and spinal root pains may be most distressing.

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*Read before the Jefferson County Medical Society.

Inspection shows retracted head, patient usually lying with knees flexed, contracted abdominal muscles, face flushed, but often a pallor, a picture of pain and fever. The skin surface may show spots of small hemorrhages and vaso-motor instability, "Tache cerebrale" is present. Herpes are frequently noted.

Examination of the patient at this point may reveal involvement of the cranial nerves. The pupils may be contracted, irregular, varying with the intracranial pressure and damage to the nerves as they make their exit through the meninges. In states of prostration the pupils are dilated. Photophobia is present. Other cranial nerves may show similar disturbance of function. Another common sign is tenderness, hyperasthesia—the patient does not want to be touched. This symptom is produced by the inflammatory process around the roots of the sensory nerves.

In the early stages the tendon reflexes are hyper-active, during the stages with muscular stiffness the reflexes may not be obtained—not absent. In the later stages of exhaustion they may be absent.

The Babinski toe sign, clonus and exaggerated tendon reflexes are not present unless the cortical fibres are involved. Often following a convulsion, cerebral hemorrhage occurs and manifests these signs on the paralyzed side. Even without a convulsion the brain substance may become involved and show these signs. Their presence are unfavorable.

The fever chart is not characteristic. It may vary, even intermit, but is always present in early stages.

The pulse and respiration are more suggestive. The slow pulse of cerebral origin and rapid pulse of exhaustion tell their respective story.

The respiration is not specially altered in the early stage, but as the illness progresses it may become irregular. This irregularity varies from irregular periods of apnea to the typical Cheyne-Stokes breathing.

The blood picture shows an early and striking increase in leukocytes. The cerebrospinal fluid is important. The detection of the diplococci establishes the diagnosis. The meningeal reaction to the cocci causes an early and striking increase of cells which accounts for the turbidity, and increase in protein elements; changes are noted in twenty-four hours, and by the second or fourth day it is purulent. Pressure is increased.

These findings are not characteristic of epidemic cerebrospinal meningitis. Diminished or absence of sugar is characteristic of meningeal involvement. A striking increase of polynucular cells and absence of sugar is suggestive of the epidemic type. In the later course of the disease the pressure may be diminished and indicates obstruction in the path of the fluid—most frequent blocking of the ventricles.

The above review may be said to apply to the regular or usual case of cerebrospinal meningitis. From the varying manifestations of symptoms certain types have been given. Fulminating or malignant, regular, chronic, intermittent, abortive, and even menincoccus septicemia, a course without meningeal symptoms. The type depends upon the virulence of the organism and individual resistance.

The fulminating presents a course that is abrupt and rapid in progress, and ends fatally in twenty-four to forty-eight hours.

The regular type develops in two to four days. The chronic type is even slower in developing and the symptoms are not so striking, but the constitutional symptoms are possibly more prominent. The illness lasts longer and often improves, then there is a relapse, and the patient may die in two to four months, emaciated and exhausted.

In the intermittent the fever may disappear to again return with the other signs. It has been suggested that these cases are relighted by an infected ventricle.

The abortive type begins with a rather stormy period to disappear in two to four days without complications.

We cannot predict the course of epidemic meningitis. The mild cases die. The stormy onset with high fever may make the best recovery. Some progress favorably for one or two weeks to lapse into coma and death.

The War Department statistics during the Great War, show that the mortality in cases with complications was 32.3%, and in uncomplicated cases 42.1%.

Complications and sequelae: The War Department reports that complications and sequelae occurred in one-third of the cases studied (4831). During the illness complications arise as in other infectious diseases, namely, pneumonia, arthritis, pericarditis, etc. The possibilities for neurological sequelae are very great. But few formerly escaped some defect.

Neurological sequelae are defects in any of the cranial nerves, as strabismus, deafness, blindness, facial palsy, paralysis of cerebral and spinal origin from hemorrhage, abscess or inflammation, mental aberration or deficiencies, epilepsy, etc.

If blocking of the ventricles occurs hydrocephalus with its varied pictures appears after recovery. This occurs most frequently in children.

The development of serum treatment has not only lessened the fatality but modified the types, cut short the duration and lessened the complications and sequelae.

Instead of the attack ending in lysis a good proportion now end in crisis with a good recovery.

Instead of the attack lasting from two or three weeks in the favorable cases, it is now only days, if the diagnosis is made early.

Instead of cerebrospinal meningitis being the dreaded disease with a fatality of 70 to 90%, it is now 25 to 40%.

SERUM TREATMENT OF EPIDEMIC MENINGITIS*

By Morris Flexner, M. D., Louisville.

The pandemic of cerebrospinal meningitis in 1904 was directly responsible for the extensive investigation that followed during the next five years. It was these studies carried on by Weichselbaum, Kolle, Wassermann and Jochman in Europe and Simon Flexner in this country that were responsible for the therapeutic serum, as we know it today. Flexner, employing the method of lumbar puncture introduced by Quincke in 1891, first in experimentally infected monkeys, and then in human cases, found the value of the introduction of the specific serum into the subarachnoid space. From that time to date, this procedure with various minor additions and modifications has remained the method of choice in treating the disease.

At this point I should like to add a personal note. Although it is 22 years since that first American serum produced at the Rockefeller Institute was employed I will recall the impression it made on me. There was considerable meningitis in Louisville at that time and Dr. Simon Flexner sent a small quantity of the serum to my father, Dr. J. A. Flexner, as commercial production had not yet begun. I saw quite a few of the early cases treated. At the time the apparatus was crude, the injections being made with a 20 c. c. syringe, after draining the canal. Sometimes it was given quite rapidly if the patient was not anesthetized. Some of the responses to treatment seem as remarkable to me now as then. One case I remember in particular, a child six years old, could be heard screaming half a block away because of headache. The fluid was under tremendous pressure, turbid, with plenty of organisms, on smear. One injection of 20 c. c. of serum was given intraspinously. The next day when we went to repeat the injection the child was in the front yard playing, had no fever, and his mother would not consent to further lumbar puncture. He made a complete recovery. I have never seen that duplicated in a fairly wide experience with the disease. In the light of our present knowledge it can only be attributed to the quality of the serum used, a point to be dealt with later.

It was because of the remarkable success with these first cases that I was to be sorely disappointed on several occasions later by the slow or negative response in the employment of commercial serum. This was particularly true in a series of 44 cases treated at Camp Taylor where the mortality was much higher and the recovery of the survivors much slower.

The prerequisite to the investigation of a case of suspected meningitis is the ability to perform lumbar puncture. The details of the procedure do not belong in the confines of this discussion. One point I would like to make is, that under ordinary circumstances lumbar puncture should not be performed by a novice unless under the direction of an experienced person. While the risks are slight, the worst that might happen would be an unsuccessful attempt and probable delay in administering serum. Cisternal puncture should not be tried except by the experienced. The place to become expert in this procedure is on the cadaver, as it is not without danger. Ventricular puncture through an open fontanelle or a trephine opening is a questionable procedure to be used only in extreme cases. In only a few instances where it has been employed have the patients recovered.

Preparedness is of immense value and serum should always be at hand when doing the first diagnostic puncture. The origiual directions, to give serum if the fluid shows any turbidity, still holds good. Investigation of the fluid by stained smears and culture will tell if further specific serum is indicated, but much time may be saved and a second anesthetic and puncture may be obviated by having serum on hand. The question of anesthesia for puncture is interesting. In some cases it is absolutely essential, in fact, unsafe without it. In others the patient may be conscious enough to co-operate. During the World War the British particularly advised anesthesia, using chloroform largely, because they found they got better spinal drainage. This has been my own experience though I think gas-oxygen is probably as valuable as chloroform.

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*Read before the Jefferson County Medical Society.

As much fluid as possible should be drained from the canal. A pillow under the head helps drainage. I have noticed that rotation of the head accelerates the flow at times, as if pouring the fluid from a ventricle. The fluid should be measured as an index to the quantity of serum to be injected. The drainage at all times should be slow and controlled by the stylet in the needle, if necessary. The amount of serum injected should be from 5 to 10 c. c. less than the fluid withdrawn. At times 30 to 40 c. c. or more of serum may be given, always by the gravity method, and warm. At no time should pressure be used in injecting serum or a fatal outcome may ensue. The pillow should be removed during the injection and the foot of the bed may be elevated temporarily.

After a definite diagnosis has been made I believe in the early intravenous administration of serum, preferably 20 to 40 c. c. The type of meningitis seen by Herrick at Camp Jackson is uncommon, but if a rash is present and the blood culture positive I believe that further intravenous serum is indicated. As in other similar injections of horse serum great care must be used and if necessary the patient desensitized. Never give intravenous serum without having 1 c. c. of adrenalin (1-1000) in a sterile syringe at hand. Dr. James W. Bruce and I reported a case of prolonged meningitis, lasting almost one month. The patient had 45 lumbar punctures, 2 cisternal punctures and over 900 c. c. of serum, including two intravenous injections and was making no progress. In despair we gave him another intravenous injection. The reaction was tremendous but from that on the child improved and made a complete recovery. We believed that the injection was largely responsible for the change, although the possibility of a non-specific response cannot be overlooked.

The modern consensus seems to be to give the serum intraspinously once in 24 hours unless it is necessary to do a second puncture earlier to relieve pressure. From then on the serum is given daily, following the rules advocated above. It has been shown that the serum remains in the subarachnoid space for 24 hours.

The Meningitis Division of the Research Laboratory of the New York City Health Department, established by Dr. Park, 19 years ago, in drawing conclusions from over 1000 cases, feels that at least four injections should be given, regardless of the rapidity of improvement. The criterion for stopping serum in the face of an improving clinical picture is the absence of organisms on smear and culture and the return of the spinal fluid sugar and normal pressure. The cell count is not an accurate guide as it is quite variable. Further puncture may be necessary to reduce pressure, but in all such cases one must be suspicious of a "walled off" process causing irritation.

Cisternal puncture should be done in cases of dry spinal taps or in cases where the fluid is so purulent that drainage is poor. At times irrigation of the spinal canal by cisternal and lumbar puncture with normal saline may be of help. Ventricular puncture with injection of serum should only be used in the hands of those experienced and in rare cases.

Undoubtedly the weak link in the chain in serum treatment of meningitis is the quality of commercial serum available. I have used the old Rockefeller serum and later the New York State Board of Health serum in a number of cases with much greater success than commercial serum. Unfortunately serum is no longer made at the Rockefeller Institute and the New York State Board of Health manufactures a very limited supply not for general distribution. In a very enlightening article in the past year, Wright and co-workers in the Babies Ward, of the New York Post Graduate Hospital, have gone into the matter of serum very thoroughly. They used seven different sera, finding one in the lot that was effective. In 44 cases, 14 died; of the 14 ten of them died before the good serum was used; two of the four patients that died after using this serum, were admitted moribund. In reality it means that using the effective serum, four out of thirty-four died, a mortality of a little over 10%. Among the interesting points they emphasize is the fact that the agglutinating titer of the serum is no index of its therapeutic value. Apparently the only test of a serum is the result obtained after its employment and if not getting the desired effect from one brand of serum, quickly change to another with the hope that one good one will be found.

In the past month Borovsky from the Cook County Hospital, reports a study of 190 cases of meningitis varying in age from less than one year to sixty-five years, seen during 1928. His total mortality was 45.9%, a figure that seems quite high at this time. He states that "no difference was noted in the therapeutic value of any of the brands employed," the inference being if we may judge from his mortality statistics that they all were equally poor. In a personal communication Borovsky writes that in 1929 there were 220 cases of epidemic meningitis in the service with an approximate mortality of 53%. He used three commercial sera in the series and saw little difference between them. That mortality seems to me about what might be expected from doing lumbar puncture and drainage alone. These figures correspond well with those of Anderson who in November, 1929, reported a series of 60 cases. Among the patients receiving serum from "the public health department of one of the larger states" alone, the mortality was 29%. Among the patients who received none but commercial serum, the mortality was 54%.

In severe cases under the most favorable circumstances with the best possible serum epidemic meningitis will continue to take a definite toll. How can we hope to control such a scourge with the sera now available to the average doctor? The answer is that the producers must find the defects in their process and put on the market serum comparable with the best. Then we may expect better mortality statistics. Recently a concentrated serum has been used which for the present must still be regarded in the experimental state.

To recapitulate a few of the main points:

1st. Have serum at the first diagnostic puncture and use it if the fluid is turbid. Every hour delay increases the mortality of this disease appreciably.

2nd. If meningococci are found on smear or culture give serum intravenously in the first 48 hours at least.

3rd. Give serum intraspinously every 24 hours until no organisms are found on smear or culture, the spinal fluid sugar returns and the pressure is normal.

4th. Use cisternal puncture for dry taps or very thick fluid, ventricular puncture in children with open fontanelles in extreme cases, or after trephining adults.

5th. Report the bad results as well as the good ones, mentioning by name the make of serum used. Only by this method will the various commercial producers truly evaluate the type of serum they are manufacturing.

6th. The mortality of this disease treated properly with good polyvalent serum should still remain from 12 to 30% depending on the severity of the infection.

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PATHOLOGY AND LABORATORY DIAGNOSIS OF MENINGOCOCCIC MENINGITIS*

By A. JAMES MILLER, M. D., Louisville.

The infection affects the serous membranes of the brain chiefly. Occasionally the linings of the brain cavities and the meninges of the spinal cord are also affected. Early in the process the reaction consists of injection only. This is seldom seen at necropsy because exitus seldom occurs so early. Soon the surfaces are covered by serous exudate which is quickly infiltrated by a dense fibrinous network in which leucocytes are very abundant. There often is a very small amount of hemorrhage which may give the pus or the membranes a slight tinge of red or brown. This exudate is so fibrinous that often it can be handled with forceps or sectioned much like soft, fixed tissue.

The cerebro-spinal fluid is usually not increased, except in the early part of the process. More often the meninges are dry and contain only the thick, fibrino-purulent exudate.

As healing progresses, the fibrin is dissolved, the leucocytes disappear and usually, repair is perfect, leaving no trace of the former very dense, inflammatory reaction, because there is no necrosis. Occasionally, however, the serous membrane is necrosed in small areas here and there, or there are small foci of necrosis extending into the cortex from the meningitis. More rarely small foci of necrosis are found deep in the substance of the brain, both gray and white matter. Characteristically, however, necrosis is absent or slight. It is these small areas of necrosis which do give rise to thickening of the meninges by scar formation and, occasionally, occlusion of paths of the cerebro-spinal fluid, such as the foramina of Magendie and Luschka. It is this scarring and the adhesions from scarring, that are often responsible for the so-called chronic cases which are in reality, hydrocephalus, rather than chronic meningitis. It is reported that occasionally the process of immunity is slow, the organisms do persist for an unusually long time and in that event the inflammatory reaction persists and consists of a slight infiltration by lymphocytes and endothelial cells with more serous fluid than during the acute stage. However, there is reason to doubt that chronic meningococcic meningitis exists. Most chronic cases are properly interpreted as hydrocephalus or a secondary infection.

The convolutions of the brain are practically always flattened and the sulci made shal-

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low by the increased intra-cranial pressure and this pressure is more the result of swelling of the brain than the accumulation of fluid.

In the remainder of the body the changes consist of cloudy swelling which is quite marked and found most extensively in the kidneys, liver and heart muscle, but is present in practically all tissues.

Complications consist of hydrocephalus produced by scar formation in the meninges as mentioned above. In a small percentage of cases there are petechiae in the skin. These sometimes break down and discharge a small amount of pus. They are the result of meningococcic septicemia, and very occasionally appear before the infection of the meninges is manifested clinically or by lumbar puncture. Meningococcic pneumonia, which grossly resembles pneumococcic pneumonia, meningococcic endocarditis and meningococcic arthritis have been observed, and in these lesions the reaction consists of fibrinopurulent exudate which may or may not be tinged with blood or blood pigment. Occasionally there is localized peripheral neuritis, which, presumably, is always the result of localization of the organisms in the peripheral nerves.

In the rapidly progressing, fulminating cases the reaction in the meninges is slight, consists of little or no fibrin, and the meninges are found injected, dry and slightly hemorrhagic. There is no reaction on the part of the host.

Practically the diagnosis depends on finding Gram negative, biscuit-shaped diplococci in the cerebro-spinal fluid. They are both intra- and extra-cellular. Other organisms give us the finding, but their incidence is so rare that they are relatively unimportant. It is generally accepted that the organism is always Gram negative and that the reports of strains which are for a time Gram positive and the report in the early literature that the organism may be Gram positive, are erroneous. It remains, however, that the Gram strain is somewhat difficult and is subject to variation.

In the early course of the disease the organism may not be present in the spinal fluid and even the number of leucocytes is small. The fact that the dense fibrinous exudate may entrap the leucocytes and organisms for a short time is an explanation for this finding and suggests that serum treatment might be begun if there are a few polymorphonuclear leucocytes in the fluid with no organisms. The same may be true in pneumococcic meningitis, and for the same reason.

Other methods of laboratory diagnosis can be used and are more dependable, but should not be done except by the expert bacteriologist, because the organism is grown with a great deal of difficulty and the possibility for error is great. Sugar reactions are quite constant; the organism can be identified in this way. More important, however, is the agglutination reaction which can be determined after growing the cocci in ascitic fluid or blood media. Delay of serum treatment for these tests is not entertained.

Meningococci may be divided, according to different experimentalists, namely, Gordon, Hine, Flack, Dopter and Flexner, into a number of different strains according to the agglutination reaction. These types and subtypes which have been described, number about fifty. It is true that the serum for each type would be most effective, if it could be given, but it is also true that the cross agglutination between the types is rather high and that the delay in time which is necessary to determine the type and obtain the type serum is unwarranted. This classification as a basis of treatment is not practical. It is also not recommended to delay treatment if organisms are not found in purulent spinal fluid, although the organisms may be slow to appear in the spinal fluid of pneumococcic meningitis for the same reason that their appearance may be delayed in the meningococcic infection.

THE SURGICAL ASPECTS OF MENINGITIS*

By W. James Gardner, M. D., Cleveland Clinic, Cleveland, Ohio.

In a consideration of the surgical aspects of meningitis, the anatomy and physiology of the cerebrospinal fluid spaces must constantly be borne in mind. In the light of present-day knowledge, the circulation of the cerebrospinal fluid may be described as follows: The fluid is elaborated by the choroid plexus in the lateral, the third, and the fourth ventricles. From the lateral ventricles it passes into the third ventricle by means of the two foramina of Monro, thence by way of the aqueduct of Sylvius into the fourth ventricle, from which it escapes into the subarachnoid space by means of the midline foramen of Magendie and the paired, lateral foramina of Luschka. The foramen of Magendie is the inferior prolongation of the fourth ventricle, and opens into the cisterna magna between the vermis of the cerebellum and the dorsal aspect of the medulla. The foramina of Luschka are lateral extensions of the fourth ventricle which open into the pontile cisternus on the ventrolateral aspects of the pons.

Having thus escaped into the subarachnoid space in the posterior cranial fossa, the fluid is free to circulate down the spinal canal as well as upward and forward to the cisternae interpeduncularis and chiasmatis. After attaining this latter position at the base of the cerebral hemispheres, the fluid follows the devious pathways of the cerebral sulci, especially the fissures of Sylvius, to its ultimate points of absorption in the cerebral venous channels. A portion of the fluid is also absorbed into the venous channels of the spinal cord, and some authors favor the theory that absorption takes place along the sheaths of the cerebral and spinal nerves as they make their exit from the skull and spinal column.

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*Read before the Jefferson County Medical Society.

The circulation of the cerebrospinal fluid consists in an ebb and flow, and is affected by a number of factors, chief of which are probably the transmitted arterial pulsations and the changes in venous pressure occasioned by respiration, exertion, and changes in posture. The rate and direction of the flow are also influenced by the varying osmotic pressure of the blood. In the main, however, the direction of flow must be from the point of formation to the point of absorption.

Normally there is very free communication between all portions of the cerebrospinal fluid spaces, which, together with the ebb and flow character of the circulation, accounts for the rapidity with which injected organisms and other particulate matter become disseminated to all parts of the system.

Localized Meningitis

Considering the anatomy and physiology of the cerebrospinal fluid system, the explanation of the frequently used term "localized leptomeningitis" is a source of speculation. It is difficult to conceive of nature rallying her forces with sufficient speed to erect an effective localizing barrier once organisms have actually gained entrance into the subarachnoid space. Probably a localized infected leptomeningitis is possible only when the organisms gain entrance to a portion of the subarachnoid space previously segregated by a sterile inflammatory process. Cases of localized meningitis have been reported in which the patients have recovered following drainage of a segregated collection of infected cerebrospinal fluid. Probably in most of these cases the collections of fluid were really in the subdural space. In such instances the arachnoid membrane may be intact and the subarachnoid space entirely free of infection. That an extra-arachnoid, subdural collection of fluid may occur in certain pathological conditions, such as middle-ear disease, is well known[1].

The explanation, perhaps, is as follows: In an infection which involves the inner table of the skull there will be a certain amount of external pachymeningitis, with the resultant escape of sterile transudate into the normally empty subdural space. This transudate, being of relatively high protein content, exerts an osmotic pressure and draws cerebrospinal fluid through the semipermeable arachnoid membrane, with a consequent increase in bulk. Finally, a condition of increased intracranial pressure results. Undoubtedly a large percentage of cases of so-called meningismus are of this nature, as the true condition cannot be recognized unless the skull is trephined.

Meningococcic Meningitis

The effectiveness of meningococcus antiserum has all but abolished surgical indications in this particular type of meningitis. Occasionally, however, when a portion of the cerebrospinal fluid spaces has become obstructed by thick exudate, the surgeon is called upon to provide a more advantageous means of administering the serum, usually by trephining the skull and tapping the ventricles. Other than this, recourse is seldom had to surgical procedures in meningococcic meningitis. The following remarks, therefore, are confined chiefly to the surgical aspects of non-meningococcic infections, usually referred to as septic meningitis.

Septic Meningitis

The surgical procedures advocated by various authors for the treatment of septic meningitis may equally well be applied to the treatment of the epidemic form, especially in cases which do not respond to the usual intraspinal administration of serum. The dreadful mortality of this condition, particularly when secondary to an otogenous or paranasal-sinus infection, has led to the application of a number of different operations. None of these to date can lay much claim to superiority over the others. But on one point there is universal accord; that is, elimination of the primary focus—a surgical axiom on such a firm foundation that it requires no comment. This duty usually devolves upon the otologist and less frequently upon the neurosurgeon. Occasionally the meningitis is of hematogenous origin from a distant focus, but no matter where the focus, provided it is surgically accessible, it should receive first attention.

Spinal Puncture

The simplest form of surgical treatment in meningitis is the repeated spinal puncture. This, in itself, probably has never cured a case of meningitis. It is purely a palliative measure which can do no more than ameliorate suffering until death mercifully intervenes. In patients with a dangerous degree of pressure, repeated spinal puncture may prolong life, and thus, by allowing more time for the formation of antibodies, an occasional spontaneous recovery may result. The reason for the ineffectiveness of repeated spinal punctures in meningitis is that a considerable amount of fluid remains after the procedure. The normal volume of cerebrospinal fluid in an adult is about 120 c. c. In the meningitic patient with increased pressure the volume is greater, so that even though it is possible to withdraw relatively large amounts by spinal puncture, perhaps 100 c. c. of infected cerebrospinal fluid remains in the system. Therefore, if the organisms are multiplying with a fair degree of rapidity, it is impossible to cause an effective reduction of their numbers by repeated lumbar punctures. The same holds true for ventricular and cisternal punctures.

Continuous Drainage

As has been pointed out recently by Dandy,[2] continuous drainage in cases of meningeal infection has been advised by various authors even as far back as the time of Percival Pott in 1760. There is considerable evidence to show that pyogenic infections of the cerebrospinal system should be treated, just as similar infections in other portions of the body, by continuous drainage. The site for drainage recommended as optimum varies according to the author. The two favorite sites appear to be the lumbar spinal canal and the cisterna magna. Less frequently used sites are the pontile cisterna, the lateral ventricles, and the subarachnoid space over the cerebral hemispheres.

The actual institution of continuous drainage from the lumbar canal may be accomplished in a number of ways. The most commonly used method, as discussed by Rainey and Alford[3] in 1923, is the introduction of a rubber tube, either by a formal laminectomy or by means of a trocar introduced between the laminae. In a few instances I have used a flexible lumbar-puncture needle of German silver which, after introduction, can be bent to a right angle flush with the skin and connected to a sterile flask by means of rubber tubing. This has been fairly satisfactory. If cisternal drainage is desired, an excellent method is that described by Dandy[2] in which he removes a portion of the occipital bone in the region of the foramen magnum and sutures a catheter into the opened cisterna.

In 1928, Spurling[4] reported his results in the treatment of staphylococcic meningitis by means of continuous drainage. His method consisted in the removal of the lamina of the second lumbar vertebra and the insertion of a gutta-percha drain into the incised dural sac. The fluid intake was then kept at a high level, above 5,000 c. c. in twenty-four hours, in order to encourage the elimination of cerebrospinal fluid. By this means, an autolavage of the cerebrospinal system was accomplished which resulted in four cures in seven cases of staphylococcic meningitis. About the same time, Kubie[5] demonstrated the feasibility of this method from the experimental standpoint. At present, the results by this method of treatment are far superior to any other.

Serum Therapy

Kolmer, of Philadelphia, is a strong advocate of the use of serums in the treatment of pneumococcus meningitis. As a result of extensive experiments on dogs, he has devised two methods of treatment. The first[6] is his so-called cerebral-cisternal spinal lavage. In this procedure the spinal canal is irrigated from the lumbar region to the cisterna with normal salt solution, followed by the injection of pneumococcus antibody solution into the lumbar needle until it flows from the cisterna. Five to ten c. c. of antibody solution are then injected into the cerebral subdural space on each side through frontal trephine openings, after which 5 c.c. are introduced into the cisterna. This procedure is repeated daily until results are obtained. The second method[7] consists in cisternal puncture and drainage, followed by the injection of 25 c. c. of antibody solution into each common carotid artery and 5 c. c. into the cisterna. This method is founded upon experimental observations which show that following intracarotid injection there is a definite concentration of the inoculum in the cerebral meninges. It is particularly advised in cases in which the cerebral subarachnoid spaces are obstructed by thickened exudate.

Complete Evacuation of Cerebrospinal Fluid

To my mind, none of these methods are satisfactory in all respects. Once the diagnosis of septic meningitis is made, the first effort should be directed toward the removal of the greatest possible quantity of the infected material, thus aiding the body processes in their battle with the disease. Repeated spinal punctures have been shown to be practically futile. Irrigations from the ventricles to the cisterna and from the lumbar region to the cisterna still leave practically untouched the large interpeduncular cisterna and the cerebral subarachnoid spaces. Continuous drainage allows the excess fluid to escape, but does not at once remove the large volume of infected material which is bathing the cerebrospinal system. There is only one simple means by which this object can be attained. That is by replacement of the fluid by air. Experiences with encephalography have proved that this is a simple and harmless procedure. With the patient in the sitting position, the fluid may be withdrawn in 5 c. c. amounts and air substituted in similar amounts until no more fluid can be obtained. At the completion of the procedure the fluid is all removed except for a few c. c. in the descending horns of the lateral ventricles and a slightly greater quantity in the sacral spinal sac.

After the removal of the infected fluid, it is a relatively simple matter to turn the patient with the head down and replace the air with normal salt solution to which has been added a quantity of immune serum if it is available. By this means it is possible to secure lavage and contact of the therapeutic agent to every portion of the cerebrospinal fluid system which has not been absolutely obstructed by thickened exudate. If normal salt solution administered in this way should prove irritating to the delicate host, it would perhaps be feasible to use a sterile filtrate of the removed fluid in its stead. Or if one wishes to avoid the reintroduction of toxic substances in solution by this method, it might be possible to use fluid from another normal subject.

This method has been in use in some of the German clinics for some years in the treatment of meningococcic meningitis. It was first proposed by Reiche[8] in 1926. The same year, Hamburger[9] reported three cures in four cases, as did also Siegl and Sollgruber.[10] In 1928, Holtz[11] reported the recovery of an almost moribund patient following the use of this procedure. In all of these cases the authors replaced the injected air with undiluted serum.

It seems that this method is scientifically sound and should be more widely adopted. It would be advisable to make roentgenograms immediately following the air injection in order to discover whether the fluid has been entirely drained and also to exclude a walled-off collection or brain abscess. The procedure should be repeated at daily intervals, and in cases of septic meningitis, continuous spinal drainage should be instituted and accompanied by free administration of fluids.

SUMMARY

1. The anatomy of the cerebrospinal fluid spaces provides for free circulation of an ebb-and-flow type throughout the system.
2. The use of meningococcus antiserum has practically obviated the necessity for surgical intervention, except for the purpose of providing more advantageous means of administering the serum.
3. The surgical treatment recommended is replacement of the cerebrospinal fluid by air, followed by substitution of normal salt solution, which may be combined with serum. This method should be more satisfactory than the others discussed.

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DISCUSSION

T. Cook Smith—There are three points which I would like to discuss. The first is in regard to diagnosis. The second and third are related to serum therapy.

The majority of patients with undiagnosed meningitis sent into hospital wards where I have been in charge have been less than one year of age. It has seemed to me that this is due to the fact that many physicians overlook the fact that a very young infant may be suffering from meningitis and yet fail to show the stiff neck and positive Kernig sign. All of these little patients offer, in the absence of these signs, another very helpful diagnostic aid in that they have open fontanels. This gives the examiner an opportunity to palpate and determine whether or not there is abnormal intracranial pressure. These patients will almost invariably show a greatly increased tension over this area. Very often such a patient is sent in with a diagnosis of broncho-pneumonia, whereas had intracranial pressure been determined in this manner. the diagnosis would have been made at an earlier stage in the course of the disease.

The second point in regard to serum treatment: It would seem a very good rule to follow, that in case there is no response to serum therapy after forty-eight hours, some other serum from a different manufacturer should be tried. Different epidemics and different sporadic cases seem to show quite a marked difference in reaction to the same serum. Even the agglutinizing power of a serum does not seem to be a measure of its therapeutic worth.

The second point in regard to intravenous serum treatment is that we have found in practice that one intraspinous injection of serum does not necessarily desensitize a patient to horse serum to the extent that serum may be given intravenously without the usual safeguards. In regard also to the practice of intraventricular injection of serum and cisternal injection of serum, it would seem necessary always in the very young infant, when spinal drainage by needle in the lumbar space is proceeding unsatisfactorily, to use these other routes for injection. It is a good practice to begin all young infants with serum given through open fontanels into the ventricles.

The second point in regard to serum treatment is the fairly frequent occurrence of a rise in cell count during the course of prolonged serum treatment, which we believe is due to a reaction on the part of the tissues to the foreign serum. This often makes it very hard to determine when the correct time has come to discontinue treatment, especially in those cases where there has never been more than a very few organisms discovered in the smears.

J. L. Jones:. From an epidemiological standpoint the control of meningococcus meningitis is one of the most difficult problems with which we have to deal, especially when this disease makes its appearance in the rural sections of the state. There are several reasons for this: First, the disease is seldom diagnosed until it has reached an advanced stage and many persons have been exposed to it: Second, the taking of cultures from the nasopharynx for the detection of carriers is not feasible other than under laboratory or hospital conditions: Third outside of Jefferson county, the facilities for hospitalization of these cases is practically nil. This means that they must be isolated in the home and cared for there. Furthermore, the intraspinous administration of antimeningococci serum in rural sections, where hospital facilities are not available, is a most difficult problem.

This presents a very disappointing and discouraging situation and makes us feel quite helpless when this disease makes its appearance.

J. A. Flexner—The first serum that I used in meningitis came from my brother in New York. I used it early in the epidemic we had here in 1908. There are somethings that are outstanding about epidemic cerebrospinal meningitis. One is that there is usually no difficulty about the diagnosis. For example, a child may begin complaining of headache at 2 o'clock in the afternoon and by 4 o'clock be a raving maniac. I have seen a number of cases where two or three people were required to hold such a child. I remember particularlly that the first lumbar puncture often changed the whole scene. During that epidemic I treated thirteen children and one adult. The adult died. but there was no mortality among the children and the only defect was deafness in one ear. I think the prognosis depends mainly on promptness of diagnosis and adequacy of treatment. I had one sporadic fatal case in a boy aged seventeen years, where the serum was given in the ventricle. I am satisfied that serum therapy has reduced the mortality, but the serum must be active.

One thing that has not been mentioned is the administration of morphine. These children are frightful sufferers, and while waiting for the specific effect of serum it is distinctly wrong to allow them to suffer and waste their strength. Morphine is the only thing that will suffice to relieve these patients. The other sedatives are useless and should not be employed.

Frank P. Strickler—I have been interested for some time in the surgical treatment of purulent meningitis, and since Dr. Gardner has not confined his paper entirely to epidemic meningitis, there are a few remarks I would like to make on the subject of purulent meningitis. These remarks are not personal and do not reflect on Dr. Gardner's paper at all for I have enjoyed his paper very much and it has been very instructive. However, it is indeed a poor subject that cannot be discussed from every standpoint, and I feel that this is such an important subject that it should have a full discussion. Let me reiterate that I do not intend, by this discussion, to be discourteous to Dr. Gardner.

I have gone to some trouble to cover the surgical literature in non-epidemic purulent meningitis in an effort to honestly evaluate surgical procedures in this disease.

Quoting from reprint of Dr. Walter Dandy, in Surgery, Gynecology and Obstetrics, December, 1924. "Surgical efforts toward the treatment of meningeal infections had their beginnings with Sir Percival Pott, in 1760. A century later, 1873, Dr. Gross advocated the teaching of Pott. In 1890, Sir Victor Horsley applied the principles of continuous drainage and irrigation to the cerebro-spinal spaces and obtained no results.

Three types of treatment have been tried. 1. Repeated cisternal and lumbar punctures. 2. Continuous drainage from (a) the spinal canal, (b) cisterna magna, (c) pontine cisterna, (d) the lateral ventricles, (e) subarachnoid space in parietal region. 3. Irrigations of the subarachnoid space by bland or antiseptic solutions. None of these methods have demonstrated any outstanding superiority over the results obtained when the case is left to nature. With very few exceptions, each report carries only one or two cures.

There is a general impression that all forms of septic meningitis are almost universally fatal. If this were true, the reported cures, even though scattered, might be considered the result of the procedure advanced. But, although the mortality is extremely high, spontaneous cures do occur. This fact makes it open to doubt whether many recoveries, including my own, have not really occurred in spite of, rather than because of, operative treatment.

Dr. Dandy, in his reprint, further states that some forms of therapy are so vigorous and devoid of surgical reasoning that one is forced to the conviction that actual damage has been added to very sensitive tissues which need all their strength to combat the infection.

In pneumococcus meningitis, Dr. Dandy cites thirteen cures reported by Lamar, in ten of which only lumbar punctures were used. Royster added two more cases. One cannot but believe that these cases might have recovered if left alone. This feeling is intensified by the fact that only a few punctures were made.

It is unsafe to draw the conclusion that because purulent meningitis is a septic infection, drainage is necessary, or even helpful. Analogy with drainage of other infected cavities is untenable not only by character of the infection, but the anatomical features of the serous cavities must determine whether drainage is useful. The pleural cavity is a single undivided space. Drainage of the entire peritoneal cavity is impossible, because of its many pockets formed by the viscera. The same applies to cavities and pockets in the nervous system in my opinion, especially after inflammation and infection have produced adhesions, pus, etc.

I have also written to some of the outstanding neuro-surgeons of the United States for their opinions and will be more than glad for anyone interested to see this correspondence.

Dr. Harvey Cushing does not advise lumbar laminectomy as the usual treatment in meningitis.

Dr. Charles Frazier disapproves of drainage as the uderlying principle in the treatment of suppurative meningitis and feels that until some way of combatting the infection at its site has been found, that the problem of meningitis will still be unsolved. That the withdrawal of dead phagocytic cells from the lumbar sac above and below, can have very little influence upon the inflammatory process.

Dr. William Sharp states in his book on neurosurgery, that in the presence of purulent organisms in the cerebro-spinal fluid at lumbar puncture, indicating a diffuse purulent meningitis, that operations are then contra-indicated, and that operations under such conditions tend to discredit neuro-surgery, The pathological process having already produced numerous adhesions between the arachnoid and pia, precludes the possibilities of a general drainage. Dr. Sharp feels that cisternal punctures and lumbar punctures for relief of pain and pressure alone, are indicated in patients of the above type, and that such seriously sick patients should not be subjected to a drainage operation of any magnitude.

Dr. A. W. Adson of the Mayo Clinic is not enthusiastic over the drainage treatment and has observed that some patients recover without drainage. Others, apparently following drainage which is done to relieve intra-cranial pressure temporarily, but thinks possibly the latter group might just as easily have recovered without a drainage operation.

Dr. Charles A. Elsberg has performed lumbar laminectomy for drainage, and is not enthusiastic about the operation or the results.

It would seem that surgery still has not accomplished brilliant results in the hands of the best operators. That the chief factors in the end results are the virulence of the infecting organism and the resistence of the patient. That cisternal punctures or lumbar punctures are serviceable in relieving symptoms and making the patient more comfortable. That drainage operations of any magnitude should not be done on seriously sick and moribund patients.

That if you are convinced a drainage operation should be done, the cisterna magna is the point of election, as operations done in the lumbar region tend to become blocked by the cordae equinea which float into the wound. Also that operations done in the lumbar regions tend to become infected, due to their location.

Louis Frank—I think it decidedly unfair to our visitor, who came here to give us the benefit of his research and experience, which he has done in a splendid paper, to permit the letters read by the last discusser to go into the record unless his own questionaire is also published in full with the letters.

While I have personally had no experience in the surgical treatment of meningitis, it would be interesting to know how many cases the last discusser has treated surgically or otherwise, in other words, upon how much experience and study he bases his opinion. I also question the advisability of deprecating the method of treatment which has been suggested, especially when he has no better plan to offer. By discussions of this kind we get nowhere. It savors of olden days, which I thought had passed, and reminds one of the opposition Jenner met with and which, had it been successful, would have deprived us of the great boon of vaccination against smallpox.

Philip F. Barbour: There are two or three points which I would like to emphasize. First is the statement made by Dr. J. A. Flexner in regard to the early diagnosis of meningitis. I had the misfortune, before serum was discovered, to see a case of cerebrospinal meningitis in which death occurred fifteen hours after the onset of symptoms. That shows how rapidly fatal meningitis may be in certain cases.

In the diagnosis of this disease in young children, Dr. Smith mentioned a very valuable point, that is determination of the increase in intracranial tension by palpation through the open fontanelle. When lumbar puncture is made we can tell about how much fluid to remove by watching the fontanelle which will give evidence of decrease in pressure. In older children, where the fontanelle is closed, increased tension in the brain is to be recognized by careful percussion of the skull. The McEwan sign is easy to interpret, but when there is a distinct tympanitic note there is always an increase in intracranal pressure. This has been very valuable to me in making an early diagnosis.

Meningitis is a disease which is generally amenable to treatment, provided the patient is seen early enough However, if the diagnosis is not made until the child has been sick a week or more, while we may stop further extension of the disease we cannot repair the damage that has been done to the brain cells. That patient may live through the disease, but is likely to be seriously handicapped afterward. We should make the earliest possible diagnosis in cerebrospinal meningitis when the circulation of the spinal fluid is unimpaired.

All of us use lumbar puncture as a diagnostic measure and also for the purpose of introducing the serum into the spinal canal hoping it will reach the point where the infection is located. When the serum is injected into the spinal canal it is carried to all parts of the cerebrospinal system, but sometimes the inflammation is so intense that the spinal fluid becomes almost a thick fibrous material in which case the circulation of the fluid is retarded, nor is it inconceivable that it would not penetrate into the lateral ventricle. It seems to me that in any such case there are advantages to introducing the serum into the ventricles themselves, as the spinal fluid is secreted by the choroid plexus and so starts to circulate from the ventricles. Where the fontanelle is open you can do a ventricular puncture introducing the serum at that level. I have just treated a case in New Albany in this manner with relief. In one chronic meningitis case in the hospital here the skull was trephined and the serum introduced directly into the ventricle with gratifying results. I would not take the ventricular route as the perferential site for the injection, but it certainly offers a method in case the spinal puncture is inadequate or unsuccessful.

R. Glen Spurling: I think that this symposium on cerebrospinal meningitis has been on the whole a great success. I am in full accord with what Dr. Gardner has said about the rarity of surgical intervention being necessary in cases of cerebrospinal fever. In most of these cases, the administration of serum into the lumbar subarachnoid or into the cisterna magna is sufficient to effect a cure. In the treatment of pyogenic meningitis, (i. e., streptococcic, straphylococcic, pneumococcic, etc.), we are dealing with a far different situation, inasmuch as we have no specific therapy for this disease. All methods thus far advocated for pyogenic meningitis have been far from satisfactory. I think it is generally considered that if no treatment is instituted, most all of these patients die. Continuous cerebrospinal fluid drainage in my opinion has given by far the best results of any treatment thus far advocated. I have discussed before this society on other occasions the principles underlying this form of treatment. Suffice it to say that continuous drainage is based upon sound physiological data. It should only be resorted to, however, in cases where the primary focus of infection can be eradicated.

The most gratifying effect of the treatment is the alleviation of suffering after drainage is instituted. In my opinion, it justifies itself as a pain relieving measure regardless whether cures are effected by it or not. The instance of recovery with staphylococcic meningitis is from twenty-five to thirty per cent. I do not believe any other form of treatment has approached the recovery instance in this form of meningitis.

Octavus Dulaney: I had a rather extensive experience in Tennessee a few years ago in a severe epidemic of meningitis. It was our misfortune to have more than four hundred cases of meningitis in Dyer County, most of the patients died. To be effective, serum must be given before the occurrence of mixed infection. That is when favorable results may be secured. When we first began talking about serum treatment, people did not understand just what we meant.

I recall that in Dyersburg, Tenn., a town of about 6,600 inhabitants, sixteen people died in one day. That was long before serum was administered intravenously. Flexner's serum was obtained from the Rockefeller Institute and this serum was used in conjunction with the spinal puncture.Before we began using the Flexner's serum a spinal puncture would only relieve them temporarily. The improvement was not permanent. The patients that were treated with serum were the only ones to recover. Since introduction of the method of intravenous injection of serum the results have improved considerably. Let me repeat that if good results are to be expected from serum treatment in meningitis it must be given early before mixed infection has ensued. Once mixed infection with streptococcus, staphylococcus or pneumococcus the patients almost invariably die.

During this epidemic I do not recall having seen any serious corneal complications. All the patients who had eye complications had suppurative choroiditis. The most frequent ear complication was suppurative labyrinthitis.

In discussing meningitis we are overlooking one important point, that is we are not taking into consideration how to prevent it. I believe I was the first man to use argyrol in connection with the prevention of meningitis. This drug bears about the same relationship to meningitis as it does to Neisserian infection. We cannot use a spray of Dobell's solution or other similar substance and get rid of meningitis carriers. In the epidemic mentioned we put all carriers under quarantine keeping them isolated and spraying them with 25 per cent solution of argyrol two or three times daily. We found many carriers not susceptible to the disease themselves but were responsible for its spread among others. If you want to get rid of the menace of these carriers, argyrol will do it. When the sinuses are involved it is difficult to eradicate the meningococcus. In some cases it took three months to immunize these carriers. Practically all the doctors in our vicinity gave their time to this work without charge. After securing the full co-operation of the people we were able to eradicate the disease.

Virgil E. Simpson: Some diseases appeal to me because of their peculiarities. Meningitis abundantly affords such appeal. It interests me because of its nomenclature. It is called epidemic, yet it occurs both endemically and sporadically, not being considered epidemic until the incidence reaches a 100 per cent morbidity. It interests me because it is called a mass disease and therefore a "military'" disease, yet less than one-half of the cases of the English epidemic of 1915-16-17 occurred among the soldiers. In the French army of 2,500,000 men per year, 1073 cases occurred in 1915, 451 in 1916 and only 409 in 1917. The severest outbreaks occur in rural communities, but the incidence, both epidemic and sporadic, is greater in cities. It does not spread radially from epidemic centers but, characteristically, by irregular routes and over long distances. Segregation of large numbers of people is, relatively, a negligible factor since it rarely occurs in universities where large numbers of young men and women gather at entrance time. Overcrowding has been emphasized by the English writers, yet it is more prevalent in the United States where overcrowding is less a factor.

It is interesting because it is thought of as highly transmissible and yet it rather rarely attacks more than one member of a family. It is rare that doctors and nurses are stricken when in attendance on its victims. Cases develop sporadically even endemically without demonstrable direct contact.

It is interesting because carriers are much more numerous than actual cases, hence, susceptibility must be low. Statistics of carriers in non-epidemic areas vary widely from 0.7 per cent to 25 per cent, a variation too wide to be explained by our present knowledge.

It is interesting in its method of transmission. The germ is found frequently on the naso-pharyngeal mucosa yet there is no actual relation between the naso-pharyngeal sinuses and the base of the brain. Neither is there any lymphatic connection between these sinuses and the cerebrospinal system. The cerebrospinal fluid takes the place of lymph in the central nervous system which is enclosed by the dura. It is interesting because invasion by the blood is probable and yet the meningococci do not, usually, multiply in the blood stream hence a true bacteremia does not obtain.

It is interesting because of its relatively low pathogenicity as it is the only germ which invades the meninges without a 100 per cent fatality. It is interesting serologically because the germ does not behave as a unit. Identification by agglutination is not interpretative since the degree of agglutination varies markedly, some strains even showing none. Complement fixation is even less definite. The reaction of the meningococci to phagocytosis with specific sera has permitted a rough grouping, but there is evidence that the prevalent types are changing. These factors have been responsible for the attempt to produce a satisfactory polyvalent serum. In recovery it is not known whether the body defense triumphed over the germ or its toxin. It is interesting because of its clinical course. It is the most variable of all transmissible diseases. A patient may die in 4 hours or 4 months. Probably no other disease can kill as suddenly with as little evidence of localization. It is interesting in its after effects. Mental deterioration and paralysis are usually thought of as common sequences and yet they are not as frequent as thought. I believe that many of these terminal states have occurred following poliomyelitis wrongly diagnosed as cerebrospinal fever. It is even interesting from a therapeutic viewpoint. Meningococcic serum is valuable but unlike other sera it cannot be used in massive dosage and it must be introduced into the site of the disease. 20-30 c. c. is an average dose; children fortunately, can tolerate almost as large doses in the subarachnoid space as do adults. Meningeal reactions after injections occur and must not be confused with an increased gravity of the disease. Serum fastness may obtain from use of small doses over long periods. Blood cultures may be positive, rarely, and in such event the intravenous use of the serum is then desirable. When satisfactory results are not obtained from a given serum after a few days, another should be tried. And finally, vaccines are of no value as a prophylactic measure.

Asa W. Nickell: I desire to speak of one phase which has not been mentioned in the symposium this evening, and that is the differential diagnostic features and phenomena.

Those of us who are situated in urban centers and have our own private laboratories, or access to public ones, and good hospital facilities, may, in the majority of instances get along very well and have little trouble from spinal puncture;

but what about physicians in small towns and country districts who are not so fortunately stiuated.

It occurs to me that in the past there have been many unnecessary punctures of the spinal canal, ventricles, etc.—which do not always have a very salutary effect on the patient. Not every case of headache, nystagmus and stiff neck means that the patient has epidemic cerebrospinal meningitis. There are several things which must be differentiated. It is not the easiest matter in the world to determine the presence or absence of the diplococcus meningitis of Weichselbaum.

Cerebrospinal fever must be differentiated from other forms of meningitis, from other acute conditions affecting the central nervous system, and from a variety of acute infectious diseases which may at times be accompanied by cerebral or meningeal symptoms of toxic origin.

It must be borne in mind that we have to differentiate the disease under discussion from tuberculous meningitis, syphilitic meningitis, septic meningitis due to the pneumococcus, streptococcus, and staphylococcus. The most significant differential point in the septic type is the presence of some local focus of infection, as an acute otitis or sinusitis, or the presence of some other acute infection, as pneumonia or scarlet fever. Then we have influenzal meningitis and mumps meningitis.

Occasionally epidemic encephalitis begins abruptly with symptoms simulating those of meningitis. The meningeal form of epidemic poliomyelitis is very difficult to differentiate from the epidemic cerebrospinal type, especially in the per-paralytic stage.

The point I am trying to stress is to avoid unnecessary puncturing of the spinal canal, especially by the unskilled.

Certain aspects of the physical examination are indispensable in the clinical diagnosis of epidemic cerebrospinal meningitis. The one most important sign is rigidity of the neck—with positive Kernig's and Brudzinski's signs. The leukocyte count shows a polymorphonuclear leukocytosis.

Now, if we have the foregoing information at hand, with other necessary data obtained from a careful physical survey, we may proceed to do our spinal work,—remembering that we can only determine the existence of the diplococcus intracellularis by a careful cytological and bacteriological examination of the spinal fluid.

A. T. McCormack: I had the opportunity of seeing some of the cases of cerebrospinal meningitis in the epidemic Dr. Flexner has mentioned. Of thirty-one cases seen at that time, twenty-nine of the patients died. It was a frightful situation.

While in Panama I saw a rather interesting and extensive epidemic The disease was brought in on a Japanese ship. Sixty-two deaths had occurred on the voyage from Yokahama. The patients were merely quarantined and kept under observation until they died or recovered. The Americans on the ship were very much discouraged. Twenty-four other cases developed after arrival at Balboa. Dr. Teague had charge of the epidemic from a bacteriological standpoint and the results were extremely interesting.

Serum was administered intravenously every six hours until the patient showed no further symptoms. Under this method of treatment all cases developing subsequent to arrival at Balboa recovered. Investigation developed the fact that about 40 per cent were carriers. These had had a mild form of the disease, or had suffered an attack previously. We found great difficulty in eradicating the infection in carriers. We used argyrol if the tonsils were involved, but also found it necessary to administer serum therapy. The whole epidemic was very interesting because we followed the cases through four and a half months and were able to tabulate exact results. The immediate administration of serum intravenously in large doses and at frequent intervals relieved these patients. We found diplococci in the blood stream. It is rather unusual that laboratory work can be done so effectively and thoroughly as was possible in our laboratory at that time.

Wm. A. Jenkins: I wish to emphasize one point in reference to the serum treatment of cerebrospinal meningitis: The reason serum treatment is not efficacious in many instances is not because the basic principles of serum therapy are incorrect, it is because of the use of improper or attenuated serum, or it may be due to the fact that the inflammatory exudate is so situated that the injected serum does not reach it, (blocked off). It should be required that commercial houses manufacturing meningitis or other types of sera should get rid of their old strains of organisms and culture media, obtain a new strain and produce serum from this strain. According to all biological laws certain strains of micro-organisms undergo change in their method of growth when kept for a long time on the same media. These organisms become attenuated and should be discarded, and the manufacturers should be required to produce new strains from a recent epidemic in order to get a fresh start.

When this is done there will be noted a great difference in the mortality of this disease. To illustrate my point: Throughout the whole range of the vegetable kingdom given species of plants tend under changing conditions of food and environment to change, to take on new characteristics, new properties. Now these latter in the course of time become fixed and you have as a consequence practically a new subdivision. In the old-fashioned garden of our grandmothers,

e. g., in the bed of zinnias, one or two would have an unusual color or shape. Grandmother called these specimens sports. She carefully saved the seed. Next year she planted these seeds in a separate bed, and so on.

Now in two or three years she would have practically a new variety. Now bacteria, cocci, etc., lower forms of the vegetable kingdom, will do the same thing. Therefore, meningo-cocci of the four well-known strains, no matter how pure or how carefully cultured by the reputable commercial firms, do not tend to change much. They are likely to remain about the same. Disease-producing micro-organisms in the human subject are continually meeting with new conditions of food, environment and tissue resistance. Consequently the organisms themselves change. Variants appearing these may become fixed and we have a new variety which may not respond to sera or vaccines prepared routinely from pure strains cultured year in and year out under constant and unvarying environmental conditions.

Various men have suggested a change in the source of supply until an efficacious serum is obtained. The necessity for this was illustrated two or three times during the World War. An American physician who had charge of medical quarters along the line during the German occupation period, reported a series of cases of cerebrospinal meningitis in which he used a type of serum furnished by the American Army headquarters. Results were very poor. Most of his patients died. Finally in desperation he applied to the French Army headquarters and was provided with fresh serum, prepared from cases they were having. Following the administration of this serum all the patients recovered.

The manufacture of sera should be under the jurisdiction of the government so that fresh strains could be produced when necessary. We know that efficacious serum can be made and when properly administered the results should be favorable.

C. H. Harris: So far as I am aware we have no cerebrospinal meningitis in Louisville at the present time. I have been impressed with the statements made here tonight about the number of meningitis carriers in comparison with the the actual number of developed cases of meningitis. The average seems to be about twenty-five to one.

I want to thank Dr. Gardner for his splendid presentation on the surgical treatment of cerebrospinal meningitis.

Chas. K. Beck: There are some things that are worse than death. Cerebrospinal meningitis sometimes kills quickly, sometimes death occurs very late; but worse than death is to see a helpless invalid deprived of sight, hearing, motor ability, confined to bed as the years pass,—thirty, forty, fifty years or more. I know of one instance of this kind in Lyon County, Kentucky, which followed epidemic meningitis forty-five years ago. Some of the worst features about cerebrospinal meningitis are the sequelae, not much has been said along that line. There may be complete amaurosis from atrophy of the optic nerve, even destruction of the eye itself, and loss of hearing.

This afternoon I examined the text book of Osler, published in 1905, several years before the serum therapy of meningitis was inaugurated, and found little information concerning the matter of treatment. In another volume by a French author, the same story was repeated. I then examined another volume by Florsheim, published in 1914, in which the statement appears that at last a successful treatment for cerebrospinal meningitis has been found, thus presenting a very different picture from that which had obtained before. The technique of lumbar puncture and introduction of serum is fully described. But I was very sorry to hear tonight something that I did not know;—I have not been in the general practice of medicine for seven or eight years and have not given much attention to serum therapy as applied to this disease;—and that is that some sera are very often not effective, whereas others are. This constitutes a criminal charge which should be placed against commercial houses manufacturing these sera.It is worse than murder, and the producers of these defective sera should be prosecuted. It is well known that an effective serum for the treatment of meningitis can be manufactured and placed in the hands of physicians, as this has been and is still being done in the state of New York. Why should New York have better protection than other states in the Union? The medical profession should "get up in arms" about this matter, we should insist upon commercial houses furnishing proper sera for the treatment of this disease and also prevent the treatment of meningitis, to the end that we may reduce the mortality of this disease and also prevent the horrible sequelae with which we are all familiar.

W. James Gardner, (in closing): According to Kolmer, the majority of pneumococcic meningitis cases reported, in which the patients recovered, were either secondary to pneumonia, or at least there was some question as to the character of the invading organisms. It is quite possible, of course that some of the cases diagnosed as pneumococcic meningitis were really of the meningococcic type.

Dr. Spurling was very modest regarding his results in treatment of septic meningitis by spinal drainage. I do not feel at liberty to quote his figures, but he has told me of his splendid work. There is no question that spinal drainage is the most successful method of treating septic meningitis at the present time.

As to the mode of entry of organisms from the nasopharynx to the meninges, the most likely route is through the cribriform plate. At any rate, this plate is the most frequent location of a spontaneous cerebrospinal leak in cases of increased intracranial pressure, which would seem to indicate that it is a locus minoris resistentia.

In my opinion, ventricular puncture is unnecessary for the purpose of introducing serum into the ventricle, as this may be accomplished by withdrawing cerebrospinal fluid, replacing it with air, and then replacing the air with serum with the patient in the head-down position.

THE SPECIALTY OF DERMATOLOGY*

By William J. Young, M. D., F. A. C. P
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The dermatologist is often maligned by the bromidic saying: "His patients never die; never get well; nor call him out at night." There is enough truth in this to make it acceptable to all the other members of the medical profession. But even partially granted, the dermatologist has enough difficulties to cope with to make his specialty far from a bed of roses separated from their thorns!

The main difficulty of the dermatologist is that, in about 35 per cent of the diseases that come within his domain, the etiology is unknown. In many instances the skin manifestations are merely symptoms of some general disorder, such as: the toxemias, vesicular eczemas, urticarias, etc. No doubt many of the so-called skin diseases with unknown etiology, and given names to designate their usual locations and characteristics, are symptoms of an unknown malady. It is also true that in all the skin manifestations of each particular disease, the location and formation may be so varied and atypical that it is impossible for general practitioners and other specialists to familiarize themselves therewith to the point of making consistent diagnoses. The mere fact that the skin specialist frequently finds himself at fault in the number of borderline and atypical lesions which come under his observation, argues the necessity of consulting one who concentrates on the various subjective as well as objective symptoms present in each skin disease. The skin-specialist should be an aid to the medical profession at large.

The encroachment of the dermatologist on territory belonging to other members of the profession is frequent, and while he may keep within his specialty, as outlined, he is still invading the domain of his various brothers. The laity may be held largely responsible for the treatment of undiagnosed skin diseases by other members of the profession than the dermatologist, since they insist on having a prescription for some seemingly trivial eruption, although the attending physician may frankly admit his ignorance concerning the malady.

The dermatologist necessarily has a large latitude and is forced to use much discretion to keep within the limits and not encroach on the fields of his various brothers in the profession.

The purpose of this paper is not to apologise for our short-comings, nor to chide our brothers for any encroachment on their part, but to emphasize the point that there is necessarily a place for the dermatologist in the practice of medicine, and to induce the general profession to co-operate in making dermatology more clearly established and more useful.

There should never be any objection on part of the dermatologist to any physician treating skin diseases with which he is familiar. Personally, I can see no reason why any one who is capable of diagnosing skin diseases and equipped to treat them, should refrain from doing so, and especially is this true of the general practitioner. It is to be expected that he will treat the commoner skin diseases, and in the University of Louisville we teach students with this in view.

I have often been impressed with the difference in attitude of specialists engaged in the same line of work. The experienced dermatologist admits it when he does not know. My sole indictment against the "occasional skin specialist" is that he often guesses, and when wrong, makes our work more difficult and our results less favorable, because of his reluctance to seek expert assistance or failure to recognize his own ignorance. In many instances unsatisfactory results obtained by the dermatologist are due to prolonged delay in diagnosis, and this often happens because of a false sense of security on part of the patient, who relies upon the judgment of his physician who is incapable of making a diagnosis, yet retains his right to give advice. Skin diseases are constantly brought to my attention in which diagnostic delay has been disastrous to the patient, and in which early diagnosis and treatment would have insured favorable results. After all, our main object is to give our patient the best we have, and I hope no one will misunderstand my motive or effort, which frankly is to bring early to the dermatologist all cases of undiagnosed skin disease. When recognized early such cases readily respond to treatment with a minimum amount of scarring; whereas, when treated later there will be greater disfigurement, with the possible chance of failure to control or cure the disease.

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*Read before the Louisville Medico-Chirurgical Society.

I am submitting the following list of skin diseases for your consideration, in which early diagnosis and treatment are most important to prevent permanent destruction of tissue, and in some instances possible loss of life unless proper treatment is instituted in their incipiency:

Keloid (corioma)
Nevi
Angioma
Actinomycosis
Blastomycosis
Lupus vulgaris
Tuberculosis
Verrucosus cutis
Syphilis
Epithelioma.

Keloid (corioma) is a fibrous formation which occurs in scar tissue where the corium has been injured. Why this tumor develops in certain individuals and not in others is unknown. Numerous instances might be cited where patients had normal scars prior to the development of keloidal growth in a later scar, as well as others who formerly had keloid formation, and upon subsequent operation the scar failed to show this tendency. The importance of early diagnosis lies in the fact that, by the application of radium, progress of the growth is checked, the scar is flattened, becomes smooth and pliable, and pain, burning and itching are relieved. The recognition of this contingency is of especial interest to surgeons, and I have suggested to a number of them that they advise their patients, after operation, should the scar become prominent, tender or exhibit anything unusual, they should return immediately for inspection. The surgeon may thus forestall the accusation of apparently having produced an unsightly scar with its accompanying symptoms. Moreover, if the keloid (corioma) has been allowed to attain any considerable size before treatment is instituted, while radium will reduce the tenseness, convexity and pain, the scar on being flattened may seemingly cover a larger area than before.

Another method of treating keloidal formations, which have been allowed to become quite large, is to excise the growth and apply radium within ten days to prevent future recurrence. It is well for the operator to bear in mind the importance of employing subcuticular sutures, since when interrupted sutures or clips are used to close the incision, keloidal formations may occur in needle punctures through the corium in closing.

Of the various forms of nevi, the one for which the general practitioner or pediatrician is held liable for neglecting treatment, in nevus vascularis. This attitude is correct on part of the laity in that type where the nevus is noted at or shortly after birth and is slightly elevated, because while it begins as a small lesion it may rapidly increase from the size of a match head to a silver dollar or more. The cause of dilation of the blood vessels is unknown, but we do know that the lesion can be readily controlled by the application of carbon dioxide snow, or an erythema dose of radium over the affected part. If treated early the resulting scar will be negligible; whereas, if treated later the scar will be of greater dimensions. The dilation of the peripheral blood vessels causes thinning of the normal skin, and any curative measures used further debilitate the thinned overlying tissue. In my experience better cosmetic results have been secured in the treatment of nevi from radium than carbon dioxide snow.

In the so-called port wine stains, our treatment is governed by the extent of the lesion. If the port wine stain is larger in area than a silver dollar, it is well to abstain from any treatment as the result is apt to be a mottled-brown effect, which is unsatisfactory to both parents and patient. And, as there is debilitation of the tissues treated, and the result unsatisfactory, I believe it better to retain what tone the skin may have, because the lesion does not extend further, and in some instances has been known to disappear. I believe it is the fact that port wine stains do sometimes fade, that people are often advised to wait, although the physician in the meantime makes no differentiation between the true port wine stain and elevated nevus vascularis. Of course, the parents want nothing better than to have their baby undisturbed, and the doctor's casual advice is followed far beyond the point it was intended.

I am grouping lupus vulgaris, blastomycosis, tuberculosis, verrucosus cutis and actinomycosis under one heading, because they simulate each other somewhat and all may become extensive, and scar tissue may follow treatment, although a complete cure is obtained. They may all be diagnosed microscopically, and if roentgen-ray or radium treatment be instituted in their incipiency, the end-results are nearly always good. If allowed to progress over a period of months, they may become constitutional with fatal termination.

The importance of correct early diagnosis cannot be too strongly emphasized, either from their easy resolvement by early treatment, or the fact of possible fatal termination, particularly in actinomycosis and blastomycosis.

With the advent of seemingly standardized and routine therapy of syphilis, this disease is being treated by everyone. Heretofore, it was regarded as a discrete part of dermatology. Just why I do not know, unless because the first and second stages were characterized by skin manifestations, and the dermatologist had greater opportunity to familiarize himself with the many and varied lesions accompanying this elastic constitutional disease. I see no reason why any physician should not treat properly diagnosed syphilis. The importance of conclusive diagnosis is made manifest by our inability to dismiss the patient with only a clinical cure. The dermatologist of today is the only specialist in the medical profession (I make the assertion advisedly) who makes his diagnosis (by the presence of skin lesions) and uses the Wassermann reaction test to confirm his conclusions.

The perfection of the Wassermann reaction test marks a great advance in the diagnosis of syphilis. It was accepted as an aid in diagnosis, especially where subjective symptoms were present and objective symptoms absent. The serologist, in his zeal to further this test, neglected to inform the medical profession and the laity of its shortcomings and the significance of the different number of phases. Sometimes when I find patients being treated for syphilis with a one-plus or a two-plus Wassermann reaction, without clinical symptoms or history, I almost feel that the serologist is to be congratulated on his business ability rather than his importance as a part of medicine! Just why they harp on the plus part of serology, and refrain from the negative part of their findings, has always been a mystery to me. But, any way, we need the serologist, and it is our fault if we allow clinical symptoms to become confused, and even the most casual practicing physician should familiarize himself with the fact that a negative Wassermann reaction does not mean the patient is free from syphilis,—whether the test be made on the blood or spinal fluid.

The greatest part of my luetic work today is to check Wassermann reactions and diagnose destructive syphilis where the Wassermann reaction is negative. This can be accomplished by the clinical test, i. e., the administration of arsphenamine, with no danger to the patient, except arsenical dermatitis, which happens seldom. I am becoming accustomed to having physicians request a diagnosis with this preface: "If this is syphilis, remember, I treat it." I believe they are within their rights, and gladly return the patient to his doctor, the diagnosis of syphilis having been established.

I still think there is a place for the dermatologist in the diagnosis of syphilis, especially in cases with atypical findings, in view of the fact that he has made the skin lesions of syphilis a special study and is not governed entirely by the Wassermann reaction.

In the last lesion to be brought to your attention, i. e., skin cancer, I am happy to say a great change has taken place. Twelve years ago one or two patients came to my office each week, and after examination I was forced to say that I was unable to be of any service to them. Today I do not see so many skin cancers as formerly, but there has been a large increase in the number of patients who appear with potential cancers, where we get practically 100 per cent of cures. The laity is becoming interested in moles, papilloma, seborrhea, keratosis and other new growths of the skin, and we see most of these before malignancy has ensued. The patients do not now wait until the disease has become active, and our treatment of small early lesions insures satisfactory results.

The development of epithelioma is insidious, its growth being so slow as to sometimes deceive the most careful observer. The fact that cauterization, pastes, high frequency current, carbon dioxide snow and the electric needle will effect a cure in many cases interests the profession as well as the laity in the use of these agents, and failure in cases not responding to these measures are not considered. Today the cancer specialist whose "great grandfather was given a paste by an Indian chief," which has been handed down from generation to generation, is becoming a thing of the past; but there are those in the profession who swear by methods of treating skin cancer other than irradiation by the roentgen-ray or radium. However, I treat many cases of potential cancer, without evident signs of malignancy, with radium or the roentgen-ray. These might be successfully treated by some of the older methods; but my reason for using radium or the x-ray is that I am giving the patient the best treatment of which I have knowledge to produce a favorable cosmetic result and cure. And, as my understanding is that only the best is to be considered in our treatment, I believe I am right.

It might be well at this point to enumerate some of the benign skin lesions which may undergo malignant change:

Actinomycosis,
Arsenical keratoses,
Blastomycosis,
Bowen's disease,
Chronic ulcers, varicose ulcers, pellagrous ulcers, fistulas,
Cicatrices,
Cutaneous horns,
Kraurosis vulvae,
Leukoplakia,
Lupus erythematosus,
Lupus vulgaris and tuberculosis cutis,

Moles,
Occupational keratodermas,
Paget's disease of nipple,
Papilloma of tongue,
Radiodermatitis,
Sebaceous cyst,
Seborrheic keratoses,
Senile keratoses,
Syphilis and
Xeroderma pigmentosum

In previous papers I have explained the superiority of radium over the roentgen-ray. Either may be used in skin cancer, but there is a greater margin of safety in radium as the factors are more constant.

Conclusions

(1) That there is a definite place in the practice of medicine for the dermatologist, even though his field is intermixed with that of other members of the medical profession.

(2) That the early recognition of many skin diseases is so important that it is essential to invoke the aid of the dermatologist when there is any doubt as to the diagnosis of skin lesions.

(3) That the general practitioner and other specialists should have no hesitancy, when assured as to the diagnosis and subsequent therapy of skin diseases, in instituting treatment themselves.

(4) That recognition of ignorance of skin diseases on part of other members of the medical profession, especially as to diagnosis, would result in a better opportunity for the dermatologist to assume his proper responsibility.

DISCUSSION

Philip F. Barbour: I have seen a large number of children born with port wine stains on the back of the neck which, as they grew older, seemed to whiten and eventually entirely disappeared. Unfortunately we cannot count on this; the ones we want to disappear are sometimes the most persistent. I have seen the statement somewhere that a deep port wine mark on the face is practically incurable. The small vascular nevi that occur in children, as stated by Dr Young, have been removed without leaving a scar, merely a white spot on the skin which finally disappears. I believe it is the consensus of opinion that there is a tendency of vascular nevi to spread if bruised or irritated. That being true, in girl babies especially, these nevi should be removed as promptly as possible. During the past winter a child was brought to me from a distant city with a vascular nevus the size of a silver dollar on the abdominal wall. There was a sloughing area in the center of the nevus. The physician who saw the child thought it was a malignant tumor. This had caused the mother much anxiety as to what was going to happen to the child.

In regard to syphilis in young children: I think we have become so dependent on the Wassermann reaction that we are losing our diagnostic skill in recognizing syphilis in the young child. On several occasions I have seen some serious mistakes made in diagnosis because the blood Wassermann on the child had proven negative. One child had condylomata, snuffles, rhagades, fissures, etc. that had been pronounced non-syphilitic by a very excellent practitioner because the child had a negative Wassermann reaction. The child recovered promptly under antiluetic treatment. We should not depend much on one Wassermann reaction or we shall be fooled sometimes. Dr. S. G. Dabney read a paper on this subject some time ago in which he stated that in congenital syphilis the Wassermann reaction was often negative. We must remember that the clinical symptoms in syphilis are reliable and our clinical judgment must not always be overruled by the laboratory.

James W Bruce: All pediatricians are interested in dermatology, because we see a great deal of it whether we want to or not. The skin lesion we see most frequently in infantile eczema which is a most stubborn and persistent disease to treat. It appears usually when the child is six weeks or two months old, and is apt to continue in spite of anything we can do until the child is eight to ten months or even a year old. Occasionally we can control it fairly well with ointments and other remedies, but as a rule it is very obstinate to treatment. Infantile eczema is supposed to be an allergic manifestation. Milk is the most frequent offender, so we have directed our efforts to rendering the milk as digestible as possible. Along this line, Kerley, of New York, has recommended cooking milk as long as six hours. This is a tedious process, but it makes milk more digestible. I have found most people unwilling to boil milk more than one to two hours, but even this improves the digestibility. There has recently been placed on the market a synthetic milk known as Sobee. It is said to contain the same amount of fat, sugar, etc. as milk. I have used it, but have found it is difficult to get children to drink it as they do not like it.

I wish Dr. Young would tell us in closing something about the so-called Wasserman fast cases we sometimes see. I would like to know just how long he thinks we are justified in treating these patients and when it is advisable to discontinue injections.

Wm. E. Gardner: I have greatly enjoyed Dr. Young's paper. We are fortunate in having presented to us the results of his large clinical experience, and perhaps we ought to take advantage of his advice and counsel more frequently than we do. In neurologic practice we do not have as many opportunities for referring patients as happens in other lines of work. I believe, however, that in a great many cases of apparently simple moles and limited growths about the skin the patients should be referred to the dermatologist for examination and advice before excision is made. We know that in some instances apparently simple lesions about the skin later develop into something serious. I believe the dermatologist who sees a large number of these cases, who knows the results of surgery, raidium and the roentgen-ray, should always be consulted when the patient presents any of these borderline skin diseases.

I would like to ask Dr. Young in closing to tell us something about the apparently simple, small red moles so often noted on the back of the patient. Is any treatment required?

Louis Frank: I have enjoyed Dr. Young's paper very much. I think the dermatologist should know as much, or even more, about internal medicine and pathology than the general practitioner or the surgeon knows about dermatological practice, because the dermatologist must be able to differentiate between lesions which are purely local in origin and those due to some internal disorder.

There are dermatologists who contend smallpox belongs to them because of its skin manifestations; that they should treat everything that involves the skin. I have felt very much the same way about skin syphilis. I can see no reason why patients with skin syphilis should be referred to the dermatologist. They should be referred to the syphilologist, certainly not to the dermatologist, because the skin lesion is merely one of the manifesitations of the disease. We know there are several other diseases that present dermatological lesions. Because a patient shows a positive Wasserman reaction is no reason why the dermatologist should treat him for syphilis.

The development of keloids following operative wounds is due to a low grade infection of the skin. While it may not be an infection which manifests itself by fever and other symptoms, yet it is a type that produces keloid growth. I think this has been shown conclusively by Halstead, just as he showed for the same reason many of the edemas of the arm occur following radical amputation of the breast. These manifestations are both due to low grade infection. In the treatment of keloid with radium, you destroy the low grade bacteria in the skin and the patient recovers. The application of subcuticular stitches in wound closure has nothing to do with the prevention of keloid provided bacteria are present in the skin.

In my opinion not all skin cancers should properly come under the domain of the dermatologist. In the treatment of cancer of mucous surfaces with radium, such as the soft palate, mouth and tongue, we must always further rely upon a surgical technique, and the lesion must be considered not purely from a local standpoint, but a very broad surgical point of view. The treatment of these cases means sometimes the resection of large areas, and if the dermatologist is going to practice surgery he must remove by careful dissection all involved lymph glands, etc., otherwise the patient will probably not be benefitted by his treatment. If the dermatologist is not going to perform complete surgery, then I believe the regions mentioned should be treated by the general surgeon who will do what is best for the patient in the way of preventing recurrence. This is a point we should bear in mind.

I do not know just how far the dermatologist expects to extend his treatment. We recognize there are many skin lesions which can be successfully treated by radium or the roentgen-ray; but the dermatologist who confines his work to dermatology should not attempt local radium or roentgen-ray treatment of lesions not amenable to these agents because of their lack of confinement to the local area.

William J. Young, (in closing): I wish to thank the members for their liberal discussion. Dr. Barbour said that port wine stains sometimes disappear. That is perfectly true as stated in my paper. I mentioned in particular the two most common skin lesions, namely: vascular nevi of the elevated type and port wine stains. The vascular lesions do not disappear spontaneously and should be treated as early as possible. They often increase in area. Vascular nevi, when the size of a pin-head or match-head, are easily destroyed and do not recur. These lesions are usually on the face but may occur anywhere.

As to moles and papillomata: I can see no necessity for removing these lesions unless they are situated on the neck or some other place where they are subjected to irritation.

Regarding the small red mole frequently seen on the back as mentioned by Dr. Gardner: We call these “‘blood blisters.” They never cause any trouble and there is no particular reason for treating them.

Dr. Louis Frank raised several questions of importance. He spoke of keloid (corioma) being due to infection.My understanding has always been that infection produces destruction of tissue not new growth. It is a well known fact that corioma may develop in a perfectly clean scar of a previous operation. It is also true that the growth usually returns after surgical excision. I believe that the subcuticular stitch is important, as stated in the paper. I recently saw a case in which a keloid had been excised and interrupted sutures used to close the wound. The incision from former operation had healed perfectly and there was no infection so far as could be determined. At each place where the needle had punctured the corium for interrupted suture there subsequently developed a small keloid. The secondary factor in the production of this neoplasm is injury to the true skin; we know nothing about the primary causative factor, but I do not believe it is a low grade infection. It would seem entirely improbable that surgeons possess greater knowledge concerning skin lesions than dermatologists, and personally I frankly admit that I know little about keloidal growths. One thing is certain: surgeons continue to excise these neoplasms and there is nearly always a recurrence. I am aware of no case in which there was a return of the growth after adequate radium treatment.

What Dr. Frank has to say regarding the surgical treatment of cancer is absolutely right. The dermatologist should be able to properly select his cases, and those requiring excision should be referred to the surgeon. In other words, if the cancer is indurated, infiltrated, and so situated that sacrifice of tissue will not entail great deformity, and especially if the dermatologist has reason to believe a cure cannot be effected with radium or the roentgen-ray, the proper procedure is to send the patient to the surgeon for removal.

As to the question of irradiation following excision: I think that is largely a matter of judgment, and certainly the man who sees the greatest number of these cases is likely to show the best judgment. I believe without question dermatologists see more skin cancers than any other men in the practice of medicine, and this being true their opinions should be worthy of consideration, when it comes to the question of deciding whether the patient shall be treated by surgery or irradiation. The follow-up in our cases of skin cancer gives us a definite idea of what we can and cannot accomplish with irradiation. In superficial lesions our results have been uniformly good. There is one place where irradiation is especially indicated in skin cancer, and that is cancer of the lower lip. By using radium or the roentgen-ray in lesions of the mucosa we get the best cosmetic result possible. After treatment there remains merely a slight atrophy of the tissues. Where the patient has a simple lesion of the lower lip, I have no hesitancy about treating it by irradiation. Where the lesion is larger, indurated and infiltrated, the proper method is excision. It is merely a question of judgment.

Dr. Bruce spoke about infantile eczema: As he says, no one is particularly desirous of treating infantile eczema. In most of these cases I think the eczema is an allergic manifestation, and the first thing to investigate is the child's food. If the child had an gastritis the doctor would not hesitate to discontinue food for several days. If you have a big healthy child with an acute eczema, reduce the food in the same manner and much benefit will ensue from this plan. I always instruct the mother to give the child an abundance of water, to reduce the quantity of food as much as possible consistent with health, and prescribe some simple salve.

Dr. Bruce also spoke of Wassermann-fast cases seen in children: This may occur in individuals at any age. Just what it means we do not know, except that the Wassermann reaction remains positive despite antiluetic treatment. There was a time when we believed that a four-plus Wassermann reaction meant the degree of intensity of the syphilitic infection. We now know that is untrue. The only thing I can see of value in a four-plus Wassermann reaction is that it merely represents a physiological reaction to the syphilitic poison and may be an indication that the patient should be given further treatment. My plan has always been to figure on the courses of treatment to be given, extending over a period of two years or more. We know so little about the therapy of syphilis that I have always tried in my practice to have the patient return once yearly for observation after what I consider an adequate course of treatment has been given. At these intervals I usually administer a few doses of arsphenamin and mercury simply as a prophylactic against future spirochaetal release from the system of the patient. I have found, however, that patients refuse to return after a clinical cure has been obtained.

Intramuscular Injections of Camphor in Treatment of Engorgement of Breasts—Experience has convinced Philpott that camphor has a definite inhibiting action on the secretion of milk. Camphor in oil was the sole form of medication employed by him in eighty cases. A loose Indian binder was used in an occasional case to support pendulous breasts, but no form of pressure binder was used at any stage. Intramuscular injections of camphor in oil were given, 1½ grains (0.1 Gm.) to a single dose. The first day two injections were given, with one daily injection the following three days. In any patient who was not intended to nurse on account of a stillborn baby or owing to some other cause known at the time of delivery, it was found advisable to start this treatment the first day after delivery. Injection of camphor in oil is a far simpler and less painful method of treatment than that of applying tight binders, local applications of ice, or the administration of large doses of magnesium sulphate.

SOME PHASES OF THE NERVOUS, IN ITS RELATION TO HEALTH AND HAPPINESS*

By Marvin Coffman, M. D., Owensboro.

If the writer of this paper had the hundred eyes of Argus, and the brain of Couvier, he would fall far short of the tremendous amount of vision necessary to treat in the most elemental way this broad and uncharted field of the nervous system in its relation to health and happiness.

We do not contemplate entering any phase of the nervous system, organic in character, except as disturbed function and metabolic processes are involved, directly or indirectly, by the so-called misbehaviorism of this psychological man. Life and happiness are two of the most coveted desires of which the human race is heir. Life, physical, and spiritual, has been the prime issue of untold numbers of the philosophers and sages of this and the remotest ages of the past. Life and happiness are inseparable, each dependent on the other, happiness, in mind and soul, beyond all elements of doubt, increase the span of life to a degree beyond the point where the most zealous psychologist could anticipate.

Life properly lived and understood can only come to full fruition in the presence of that necessary state of mind called happiness.

The biologist tells us that all life originated from a unicellular organism, that one little proto-plasmic speck, which held the initial beginning of all future life and happiness, all the potentialities of this and the remotest ages of the past, was held a profound secret by this microscopic first evidence of life, with its multiple complexes evolved from this, nervousless, thinkingless, emotionless, speck of endoplasm. So life did not start mature, life had no happiness, until it evolved into a thinking animal, and when this thinking animal arrived on this terrestial globe, then all varieties of ideas and emotions began to develop.

So 'tis with this mature thinking emotional man of the present day, we hope to deal.

Life is dependent on function and disturbed function promotes unhappiness, and unhappiness will produce grave and intolerable nervous symptoms, and when permanently fixed are most impossible to uproot.

We live in a fast day, crowded with worries and disappointments of yesterday and full of anticipations of a benevolent or malevolent tomorrow, consequently our lives are made up of one continuous process of excesses and perversions.

As a result of all this 20th century strain, our nervous system is faltering under the load, and fears and complexes arise on every hand. Statistics tell us that for every bed in hospitals in this country filled with diseases of all kinds, including casualties, there is one occupied by some form of mental or nervous disease. They also tell us that there are over one million boys and girls in our high schools today that are destined to fill such beds unless you and I as physicians bestir ourselves and learn more about how to diagnose these many functional neurosis in their incipient stages and thus prevent an incurable condition arising.

The practice of medicine has paid very little attention to these various neurosis until comparatively recent years, perhaps they did not exist, in fact, it was not until the last forty or fifty years that there was even a text book written on nervous disease. Just within the last few decades, that specialists along this line have developed.

So it is now that we recognize this dual man, this psychic man and this somatic man.

Robert Louis Stevenson, Scotland's famous son, made a stagger at this dual personality in his immortal Dr. Jekyl and Mr. Hyde, but he referred mainly to the good and bad in man as it relates to his spiritual being.

You and I deal with this physical, or somatic man, but this man must be looked upon by the physician from two angles; namely, the somatic man and psychic man.

Therefore, we conclude that every time a patient enters our office, two personalities present themselves, a physical man who may be organically sick from specific cause unrelated to this psychic man, and a psychic man whose whole trouble may be or may have arisen from a psychosis of some character. In fact; the paper hopes to contend that all physically sick men are susceptible to psychic suggestions and enviroment.

It is the profound belief of the writer that every man, regardless of his phlegmatic temperament, is susceptible to psychic influences, now for an illustration: We are called to see a patient with severe epigastric pain or general abdominal pain. We at once suspect appendicitis. The abdomen feels hard, tympany quite in evidence, perhaps a slight temperature, et cetera. Our suspicions are immediately aroused, this may be appendicitis, yet this may be a neurosis. The writer was called a few months ago with a good doctor to see a woman of like symptoms. The doctor had given her ½ grain of morphine and then had to use chloroform to relieve the patient. These symptoms persisted for two or three days until it was thought wise to remove the patient to the hospital for operation, but one dose of apomorphine 1-20 grain entirely relieved the patient; so that is what I am inclined to call the hysterical abdomen. This is more apt to occur in women than men, though I cite one case of hysterical abdomen in the male, a boy thirty years old, a neurotic, read frequently of appendicial operations, and heard a great deal of rupture of same, and he developed abdominal pain, came to me worried and scared. I assured him he had no appendicitis, but he had another doctor to examine him who did not know him as I did, and told him he suspected appendicitis. That was all he wanted. He came back to me with more pain and worse scared. I called in Dr. Rash. We both assured him he had no appendicitis, but an operation he must have and did have. Dr. Rash removing appendix under protest. That ended the appendicitis, though later he did develop a hernia on his right side, which was no doubt the cause of his pain. Thus our inability at that time to locate the real cause is at once apparent.

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*Read before the Daviess County Medical Society.

Nervous symptoms are very apt to cause abdominal pain, I think due to the fact of the close proximity to the solar plexus, or abdominal brain as some call it. I am usually suspicious of gastric or duodenal ulcer in these extreme nervous men regardless of whether we have the other cardinal symptoms or not. I think we, as physicians, make a great mistake by discussing in the presence of any patient other cases of like kind. To illustrate, I am called to see a case of appendicitis. I so diagnose or suspect it, I call a surgeon, for fear the patient will not take our advice, we begin to tell him about John Smith, who had his same condition and waited too long, we operated and the patient died. This is not overdrawn, I have done it and heard it and so have you. We have entirely forgotten this psychic man that is perhaps more responsible for shock than the somatic man.

I think one of our greatest problems is to get our patients to lay the cards on the table face up to bare their whole secret life and impulses. Modesty restrains in many cases and that first law of man, self preservation and respect keeps worries, doubt and fears imprisoned within the patient's own consciousness until they have made a wreck of their lives. A certain beautiful young woman in this town whom many of you know and have treated, came to me once for treatment, told me the story of how she suffered from headaches, sleeplessness and worry. She had suffered at the hands of many physicians, as the Biblical woman who had an issue of blood, but no relief came to her troubled brain except while under the hypnotic influence of some misled physician's prescription. Finally I said to her: "Perhaps the reason you have found no relief is due to the fact that you have not been fair with the doctors. Have you told them all your secret troubles?" She said, "No, doctor, I have not." That gave me a clue. I said to her, "May I examine you locally?" She consented and on investigation I found the vagina red, oozing, and irritable. I became so convinced that I summed up courage, (and it took courage) to ask her if she masturbated. Delight came over her face and she said, "Thank God, you have asked me what I have wanted some doctor to ask me for years, but it seemed nobody understood." Now then she is married and happy. This is by no means, gentlemen, an isolated case. Many of them are under your care now. In my opinion it is only those cases that begin in early life that such practice harms, if practiced moderately beginning in adult life, I have found no harm. In view of the fact that most of these nervous cases occur in the female, our mind is at once drawn toward the why, if such be the case. You and I were taught that ocipital headaches and pain in the top of the head were due often to some displacement of the pelvic organs, but present day investigation has very largely discounted this theory. I do not believe that position of the uterus has anything to do with producing nervous changes, but that it it is entirely dependent on endocrine unbalance. Just what kind and what glands involved we await further scientific investigation, but we do know that promiscuous desexing has been one prolific cause of a gerat deal of nervous unbalance, and I am of the opinion that women should be left alone half sick rather than subject them to too much surgery except in carefully selected cases.

We might go on indefinitely. The object of this paper is to get a general opinion on this subject when we consider that one out of every two patients whom we are called upon to attend, come under this heading.

The treatment of these patients by whatever means used, be it psychopathic or medicinal, should come within the province of the physician and not be left to untrained hands or psychologists however efficient they may be. Dr. David Mitchell, a psychologist of high standing at Columbia University, admits himself that he is greatly handicapped in his work due to the fact that he has to send his patient to a physician to find out his physical condition before treating him psychologically. Why should not we attend to both this psychological and somatic man?

We are rapidly approaching the day when psychologists will be located in our midst-curing many of our uncured patients, and if we are not alert, this specialty will develop outside of the medical profession.

Yale University now has an endowment

fund of many millions of dollars for the one purpose of investigation of the behaviorism of this animal we call man.

These same psychologists tell us that the multiple fears that surround and haunt man are responsible to a large degree for his physical ailments, and that only two fears are innate that of noise and falling the evolutionist claiming that these are handed down from our brother, the ape, whose ears were constantly alert to approaching danger of larger animals seeking their prey, and the fear that his tail would become disentangled from the limb, thus producing the fear of falling.

Be that as it may, we are certainly obsessed with a multiplicity of fears which have been created within our own consciousness, each one exacting a fearful toll of life and happiness.

I wonder if it were ever rational therapy to tell the appendicial patient that a recurrence was sure to follow an attack of appendicitis, is it ever rational to tell a patient that nothing can be done for them? Though we feel honor bound to be honest in our dealing, if it were the somatic man alone we had in mind, well and good, but what about the other half or larger half, the psychic man?

I believe that every patient who comes to our office for advice is sick, though they may manifest no organic lesion and that they should receive our most careful attention, if you want to get the ill will of a patient and family, tell them there isn't anything wrong but hysteria, that patient will instantly seek a more sympathetic physician. If he cannot be found within the medical profession, he will be sought outside. A good way I find to inspect the psychological man is to try and draw the patient away from himself, instead of letting him tell all his troubles, ask him where he lives, what he does, married or single, etc. If there is very much inner psychosis, the patient will almost invariably come back to himself. The subconscious mind will predominate unconsciously and then gradually get back to the subjective symptom. Thus you will have taken an excursion in the realm of the subconscious without the patient's knowledge or consent, the conscious mind will act a plenty without any persuasion.

The various methods of treatments, of course, are legion, and truly each case is individual, though certain general rules may be applied. First of all is an interest in the patient that is manifested by a thorough examination and sympathetic management; second, to gain confidence of the patient which will be greatly aided by this care and patience, a good plan is to insist that the patient must have confidence and place their faith in the hands of some good physician, in case I am not that man, in whom you can place utter confidence, my advice would be for you to look until you find that man. If you can place your whole faith in me and let me think for you, I shall be more than glad to help you out, otherwise, both of us will be disappointed. You will not recover and my skill will be just so much discounted. Beware of the patient who complains of depression on awakening after a night's sleep. That is usually one of my first questions. A brain and nervous system that does not respond to nature's remedy, sleep, is in great danger, and my opinion is that many of them have some gastro-intestinal complication, and the bad feeling in the morning can frequently be relieved by feeding at night, say from one to four A. M. and thus relieve nervous fatigue.

In the insomnia type, I think it much better to administer a hypnotic than for the patient to spend a restless night and usually phanodorn is the best sleep producer I know, the luminal works well though it does not produce quite so refreshing sleep in the purely neurotic as phanodorn. Luminal in small doses oft repeated, gives better results than larger doses, say 1½ grains just at bed time.

The main purpose of the paper however, is to stress the importance of the psychological man, but not to forget the somatic man.

Recurrence of Tubal Pregnancy in Stump of Excised Tube After Three Years—Three years after the performance of an oophorosalpingectomy of the right side, in a ruptured tubal pregnancy, the patient of Bello et al., aged 32, was brought to the hospital in an emergency condition with the diagnosis of ruptured extra-uterine pregnancy. The general condition was grave. When the second laparotomy was performed a large amount of foul smelling blood escaped. In the stump of the excised tube (in the intramural portion of the tube) a hematoma was found, and at its insertion placental tissue was discovered. A yellow body and chorionic villi were also present. The chorionic villi, in the stump of the right tube, had undergone degeneration. The transverse section of the villi showed a compact mass of cells of trophoblast. The authors believe that the ovum from the left ovary migrated to the right side. They emphasize the importance of total resection of the entire tube, including its intraparietal portion, as the necessary operation in cases of tubal pregnancy, in order to avoid either the recurrence of tubal pregnancy or the possibility of malignant degeneration.

CONSULTATIONS AND CONSULTANTS*

By JOHN KING FREEMAN, M. D., Louisville.

This subject was selected for the simple reason that I have heard so many complaints about how consultants had treated their conferers and how the consultant had treated the patient. Now, in the open discussion I want to speak and hope everybody will have his say.

We doctors,—I must specify medical and surgical, to distinguish us from the divine, dental, chiropractic, osteopathic, neuropathic, "hoodopractic," corn doctors, etc., all doctors, I mean real doctors, are born doctors to a profession and not to a trade. We feel that we are called and chosen in our great profession to heal the ailments of humanity. It is not for us to gain but to benefit humanity that we have selected or have been selected to our calling. We are the ministers of health, the alleviators of suffering, and the saviors of great wealth in our communities. Then I must beg you to hold your calling in high esteem and let no tyro hold it down to mere bickering and paltry pay.

I am presuming you are one of them called to practice the healing art, and to you my remarks will sound best. No matter where you are, no matter what the surroundings, the good for your patient will always be at heart. But self-preservation is a prime law of nature, and doctors must look after themselves as well as others. Often they do not, and embarrassment and detriment to themselves sometimes follow.

In the busy flow of practice and life we meet many things that perplex and worry and harrass our minds. In medicine we have the same things as in busy life and often wish for and feel the need of help. And this is where we want somebody who can realize the whole situation and give some good advice or counsel in the immediate condition and help bring back to health and life the suffering patient we are called to see and treat. Who shall we call?

If left to you, call someone who is capable and some one who will conscientiously work with you in the case. You need sympathy and condolence and good advice and no selfish or destructive criticisms. The welfare of the patient must be always paramount and you must always see that the best is done for him, but at no time think you are to sacrifice yourself in any way. You should be the sole master in all of your cases. However, if some of the family or friends wish to have you call some other than of your selection, call him unless he is disreputable or untrustworthy. Call whoever the family may wish if you can; do not cross the family if it can possibly be avoided. You may reason with them about their selection of a consultant, but never belittle their selection no matter how poor it may seem to you. If you attempt to discard some of the patient's favorites, you may be kicked out of your case entirely. Honest, conscientious doctors really prefer consultations with their like and welcome their presence and weigh their counsel.

Never refuse consultation unless you think consultation is useless from the nature of the case and the surroundings of the patient.

Situated as we are among all sorts of special workers in medicine, we necessarily call for consultations quite often. That is, when we refer a patient for special eye or throat trouble, a patient for roentgen-ray examination, a patient for serological examination, etc. This is all right, but the medical worker to whom you refer these patients should send them back to you with his report and no more. If the patient is referred to a specialist for an eye affection, he should treat the eye alone and not attempt any systemic treatment unless you are consulted. Surgical consultants should always have the medical man to take care of all non-surgical ailments. Be careful and do not belittle the medical man or general practitioner no matter if you think he was slow in making a diagnosis. Any remark of a disparaging character will do you no good.

Consultation should always be asked for in doubtful and troublesome cases, such as the necessity or time of some operative treatment. In a suspected surgical case, of course you should insist on calling a surgeon. If a non-surgical case, call some good internal medical man, or heart specialist, as the case may be.

Remember when you call good consultants you lessen responsibility on yourself as well as pacify the patient and the family. In some troublesome cases you may save yourself from legal argument by calling for consultation. No matter if it be a charity case, call some of your friends who will be glad to lend assistance if trouble is threatened.

In consultations where the consultant cannot agree as to diagnosis or treatment, the family should be notified and a third consultant called. But if the family decides with you, the consultant should retire; if with the consultant, you should retire. The family has a right to change doctors in an ethical way at any time.

It is not advisable to consult with irregulars or anybody who is not in full sympathy with our profession. We may meet these irregulars and consult with them in emergency cases. But we can have nothing to do with a man who wants to apply cantharides to a burn!

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*Read before the Jefferson County Medical Society.

We must meet at times ministers, midwives and anxious aunts and mothers. These usually can be handled in a diplomatic way. We should never make light of their advice; often a simple explanation will bring satisfaction. Ever keep in mind the Golden Rule and you will not make many mistakes in ethics.

Now, since I have introduced the subject of consultations, I hope to hear from many of you.

DISCUSSION

W. T. McConell: Dr. Freeman's paper has brought to our attention some very valuable thoughts. This is particularily an age of specialists and those who do general practice are frequently in need of the services of men who are prepared to render special service. The x-ray, the laboratories, the diagnostic clinic and other men who have qualified themselves to give special help are more in demand than ever before. I feel that it is a distinct advantage to any man before limiting his work to any special branch of medicine to spend some time in general practice; such a man will be in much closer sympathy with the viewpoint of the general practitioner when he does limit his work. In many instances there is a tendency for the specialist to overlook the interests of the general practitioner when he is called in as a consultant. The family doctor must spend a great deal of time in the study of his cases, he assumes a large portion of the responsibility and must of necessity care for the patient after the specialist has been dischargd, and yet many times the consultant is the one who gets the large portion of credit and also a large portion of the cash for the handling of a given case. I feel that we who are limiting our work should do everything in our power to conserve the interests of those who call us in as consultants.

George A. Hendon: I have only one observation to make, and that is that all consultations should be based on the idea of the segregation of labor. This should be the governing factor in the selection of a consultant. It is well-known that certain men in the profession in this and every other community are more deeply interested and more competent to manage certain ailments than their confreres. Therefore, if a complication arises in which we know a certain man has acquired special knowledge, he should be the man to consult regardless of our own or the patient's personal predilection. In other words, it is not fair to the patient to permit personal sentiment to determine our choice of a consultant. As has been well said: "There is a difference between Hippocratic ethics and hypocritic etiquette," which merits our keenest appreciation.

Simrall Anderson: I agree with practically everything Dr. Freeman said in his paper. This is a subject which may be discussed from time to time with advantage to all of us. The statement is of great importance, that it is advisable when matters are not progressing properly to suggest to the family that a consultant be called. It is good policy to mention the fact that you are willing for them to have anyone they want to see the patient at anytime. To have someone share the responsibility with you should be of much satisfaction.

Mischa Casper: I have enjoyed Dr. Freeman's paper. Consultations are much more frequently held now than in the earlier days. We now have a multitude of competent specialists in all branches of medicine to whom we can apply for help when needed. Laboratory work is really a consultation in itself.

In my early practice, when there was little to do, I seldom hesitated about consulting with anyone where I could be of assistance. I did not stop to inquire whether the one seeking help was a homeopath or allopath. So far as I am aware no one took any exception to what I did.

No one can ever tell when you are called in consultation just what is going to happen. Dr. Solomon told us of a rare obstetrical case. I will also mention one that has never been reported. The outcome was disastrous to the patient and embarrassing to those in charge of the case. I was called to the "Cabbage Patch" in consultation with two colored physicians who also claimed to be surgeons. I was not averse in those days to making a dollar of two wherever possible. These two colored doctors were in charge of a labor case and wanted to take the woman to the hospital and operate upon her right away as they could find no baby in the uterus. The patient had been in labor for three or four days and nights and was greatly exhausted, the labor pains had been long and severe but unproductive. They had a colored nurse who had formerly been employed in my office, and she insisted that before taking the patient to the hospital for operation that I see the patient. Upon examination I found that labor pains had ceased entirely and there was a breech presentation. The reason they had not found the child in the uterus was that in their manipulations they had dilated the child's anus until the entire hand could be inserted into the rectum. These colored doctors had been introducing their hands through the child's anus, they could not locate the baby, and had failed to recognize the true state of affairs. In making the examination, upon withdrawing my fingers they were found covered with meconium. The baby was dead and was delivered with forceps. This case terminated unfortunately for the patient because of extensive sloughing of the anterior vaginal wall and urinary bladder which resulted in a large vesico-vaginal fistula. I operated upon her many times in attempts to close the fistula, but there had been so much sloughing that my efforts were not entirely successful. The patient's family was well-to-do and paid me well for my services. I am sure I was the means of saving this woman's life, and had she been seen earlier she would probably not have had this large vesico-vaginal fistula. Again, you cannot foretell what is going to happen when you are called in consultation.

I think it is well to bring subjects of this kind before the society for discussion so we may get closer together on these matters.

John K. Freeman, (in closing): I thought from the number of complaints about consultations and consultants I had heard, that somebody was going to come here and tell us something more about them. Several doctors told me many things about the way doctor so and so had treated them, and I asked them to come to this meeting and repeat what they had said. As they have not done so, they will simply go back and "be spanked again."

Dr. Hendon spoke of segregation: How are we going to segregate these cases? Oftentimes two surgeons are called in consultation in a complicated case and sometimes three of them. We must not leave it all to one man, we must recognize we do not know it all, we must call for help, if the condition of the patient requires it, you may call as many consultants as you please. And as stated in my paper, in some charity cases, when there is little renumeration in it, you need a consultant more than anywhere else, because some of these poor people may later give you a legal argument about the results. I do not believe there is a surgeon in the city who would not come and help me if I told him I was in trouble over a case, and I will go to the assistance of any of them. If any of you get into trouble and need help, notify me and if it is possible I will come to your aid. We must help each other in that way.

What is going on about our referred work? Someone told me that he sent a patient with some throat trouble to a specialist in that department for treatment. The specialist treated the throat affection and then sent the patient to another doctor for continuation of the systemic treatment, which is absolutely wrong. That patient should have been sent back to the doctor who referred her to the specialist.

Take a patient who is in need of surgical work and is referred to a surgeon. When the surgeon is through with his work that patient should be sent back to the medical man. Should that patient develop a heart lesion, pneumonia or other complication, the medical man who referred the patient should be called in. If the surgeon does not call him, it is entirely wrong, and he does not deserve any more work from that general practitioner The general practitioner deserves just as much consideration as the specialist or anyone else. We must not take his patients away from him.

In the paper I said nothing about fees, but there is one important thing to be considered in this connection. If you call a man in consultation, it is your duty to see that he is paid. You must not collect the money for him, nor should you assume the responsibility for his fee. I would hesitate about calling a man in consultation for charity unless I told him in advance it was purely a charity case, if I thought there would be no remuneration in it for him. If not a charity case, I would try to see that he received his fee even if I did not get anything. I think that is the duty of everyone who calls a consultant. Of course, you, as physician number one, have the right to dictate to the consultant if necessary and caution him not to make his fee too large. You have the right to confer with him about this.

In this connection, we have a very interesting book in our library on "The Physician Himself," written by Dr. H. W. Cattell and published by the F. A. Davis Co., Philadelphia. I think any of you who have not seen this book will find many points in it and I will commend it to you.

THE TREATMENT OF EPILEPSY*

By John J. Moren, Louisville.

In the past thirty-five years I have seen many cases of epilepsy, have tried various remedies, and have seen other patients who were treated by different physicians: the story is usually the same—they continue to have their attacks. It is generally recognized that only a very small per cent of cases are actually cured or relieved of their attacks, consequently it is a question as to the best policy of controlling the number of attacks.

From my observation I have come to the conclusion that drug treatment alone is not the best policy. The object of this report is to give a plan of treatment that has been satisfactory to me. It is unnecessary to argue the question of the cause and the nature of epilepsy. You, as experienced neurologists, appreciate these problems and realize how little is really known about essential epilepsy.

I do not know what essential epilepsy is, nor do I know the cause. There are many exciting factors. There are types of individuals who under certain circumstances when exposed to certain exciting causes are liable to have a convulsion. Not knowing the basis of essential epilepsy, and not knowing the cause, how can drug treatment accomplish anything other than symptomatic results.

It has been my experience that the abuse of sedative drugs to control these attacks has made these patients more miserable and even though the number of attacks might be lessened, they continue to have convulsions at irregular intervals.

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*Read before the Louisville Neurological Society, December, 1929.

Several years ago at the old Hospital College Clinic we had a number of epileptics. When a patient reported having had an attack we asked him what he had been eating, and almost invariably we found that there had been an error of diet and commonly eating between meals. By error of diet mean eating something other than regular ordinary food stuff. Eating sardines, bananas, cheese crackers between meals, excess of candy, etc., etc.

This experience made an impression upon me that I have retained, and lead me to the adoption of the following plan in the treatment of all types of epileptics:

First. Determine as far as possible any physical disease or defects, as tonsils, errors of refraction, anemia, disorder of digestive function, etc., etc. These conditions are cared for by appropriate measures.

Second. Diet. The basis of this dietetic question is eating regularly three times a day. Nothing but water is to be used between meals. A liberal diet is allowed. In fact all forms of food stuff, except those that the individual knows disagrees with him. I do not bar sweets, meats, etc. If a child is allowed sweets he will not crave such food and eat away from home. If he knows that he is going to be allowed all types of food he will follow the three meals a day much better than if we restrict him.

There are three things that I insist upon. First, good cooking, and sensible combinations. Second, avoidance of over-eating. Third, no soda fountain drinks.

The quantity of food stuff required by individuals vary, consequently, it is a question as to how the individual is handling the amount of food which he is taking. This question is determined in each individual.

The question of coffee and tea is to be decided according to the individual. In young people they are to be avoided, but in adults I have no objection to a resonable quantity.

Third: The question of drugs. Luminol is used in most cases. My plan is to use one-half to three-fourths of a grain at bedtime. Under distressing or trying situations an additional dose may be used in the morning. In the female the additional dose is used during the menstrual period. This dose is sufficient to act as a mild sedative, but not to depress the patient. The same practice applies to bromide or any other sedative that might be given. I do not approve of doses sufficient to make the patient the least drowsy or depressed. Occasionally I have found the use of Luminol at night and bromide in the morning acts better in some cases.

Fourth: Some form of exercise or occupation is of benefit. In children I try and keep them in school. Whenever possible I allow the children to live the life of the average boy and girl. Instead of holding them in the house and telling them not to do this and not do that, they are allowed to play. The whole object being to retain and encourage their interest in any and everything, and avoid the uncomfortable situation of inferiority or depressing handicap.

My experience with these simple procedures have enabled me to control in a measure the number of attacks, the patients are certainly more comfortable, and are decidedly more optomistic than under any other procedure that I have ever used.

There is nothing new about the plan. It is simple and can be carried out by any one, and in view of the fact of its simplicity, patients can practice it for years without any unpleasant effects at all, and help control a malady that usually lasts a life time.

TWO CASES OF PROTEIN SENSITIZATION*

By Frederick G. Speidel, M. D., Louisville.

Those who are familiar with the literature of the past ten years dealing with allergic phenomena can recall many instances reported therein of individuals who were found hypersensitive to strange and unusual protein entities. For a time it seemed as if the reporting physicians were vieing with each other to see who could report the weirdest case. In the cases briefly reported herein no attempt is being made to present the grotesque or fantastic. These are simply cases that have come under my care recently and are offered in order to illustrate the type of hypersensitiveness in which no treatment is necessary for the simple reason that the incriminated protein can be avoided without much difficulty.

On a very cold day last December I was called to see a young man suffering with asthma. A hypodermic of adrenalin relieved him sufficiently so that I could secure a history of a number of previous similar attacks separated by various lengths of time and occurring in different months of the year. He was a cooper by trade, owned a cat, and chickens and was of the opinion that the eating of sauerkraut caused his attacks of asthma.

Further painstaking questioning which apparently seemed quite amusing and beside the point to the patient's mother, who was present, revealed that a small boy in the family owned a guinea pig and that on account of the sub-zero temperature then prevailing the animal had been transferred temporarily from the barn to the kitchen. With these data at hand the skin tests were begun. The final results was that he gave a highly positive reaction to oats. This cereal had been brought into the house as food for the guinea pig and its prompt removal led to the patient's recovery. He then recalled that on infrequent occasions he was obliged to go into a part of the building adjacent to his cooperage shop where oats were stored and that it was at these times that his previous attacks of asthma had occurred.

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*Read before the Jefferson County Medical Society.

Careful questioning frequently indicates to the physician the most likely offending substance or at least the general class of substances to which the offender belongs, i. e., whether it be fruits, vegetables, meat, fish, pollen, epidermal protein or what not. At other times questioning is quite fruitless and a large number of tests must be made before the offender is caught.

Typical representatives of the easy cases are the young ladies who are hypersensitive to the orris root in their own face powder. They complain of attacks of sneezing daily throughout the year and usually have had their noses operated upon without relief. When the cause of their sneezing is demonstrated they can use cosmetics which do not contain orris root and will have trouble only in large crowds such as at matinees and in department stores.

As an example of those cases, where questioning does not help and where the patient's answers inadvertently lead one astray, a young lady was seized with a violent attack of asthma, her first attack, about noon on a recent Sunday. After the usual emergency treatment was administered which gave relief to the patient and restored a semblance of composure to the household, it was learned that the young lady had spent part of the morning at church and part in the garden picking flowers for the dinner table. Thorough questioning failed to add anything of importance to this information. Church seemed to offer no attractive possibilities, as far as skin testing was concerned, but a visit to the flower garden revealed a number and variety of flowers which was quite overwhelming and for the majority of which no pure proteins for skin tests are available. It was determined to begin with what proteins were at hand and run through the list of most likely causes of asthma before attempting anything unique. After using about twenty substances a highly positive reaction about 3 centimeters in diameter with pseudopodia extending in every direction, was obtained to rabbit hair. As is always the case, the patient then recalled having petted and held a pet rabbit shortly before her attack of asthma began. As this occurred on Easter Sunday she probably should have been tested first for sensitiveness to rabbits, but the visit to the flower garden had been over-emphasized.

RUPTURED APPENDIX IN THE SCROTUM OF AN INFANT, REPORT OF CASE*

By Chas. M. Edelen, M. D., Louisville.

Patient, K. H., white male infant 11 months of age. Was admitted 9-4-28 to the surgical service of the Louisville City Hospital, with a provisional diagnosis of "right inguinal hernia."

The history as obtained from the mother was that the baby had a swelling in the right side of the scrotum, first noticed three weeks before presenting the child at the clinic. The child was rather restless and peevish. During the three days before admission, symptoms were more pronounced, and the child would not take all of his formula and cried if the right side or scrotum were touched. The intestinal functions were regular. The child did not vomit.

The physical examination was essentially negative except for slight redness, swelling and induration of the right side of the scrotum. The temperature was 99.4° F.; pulse 100; respirations 28.

Laboratory Work: Leukocytes 18,550, with 84% polymorphonuclear cells; urine, negative.

Operation under general anesthesia: A right oblique inguinal incision was made. Upon opening the hernial sac the appendix was found to be present, with the tip involved in a mass, in the scrotum. While endeavoring to deliver the tip of the appendix, a small amount of purulent material was noticed escaping from around it. By carefully arranging the sponges, there was a little contamination of the operation field. The appendix was wrapped in a piece of gauze and removed by cautery, and the usual purse-string inversion suture was used. The scrotum was next exposed and incised, a small piece of rubber tissue being inserted for drainage. Drapes and gloves were then changed, and the hernia repaired without further drainage. A dressing sealed with collodion was used in an attempt to keep the wound clean.

Convalescence was normal, and the baby was discharged on the eleventh day post-operative. Follow-up examinations for a period of six months revealed no evidence of recurrence.

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*Read before the Jefferson County Medical Society, March 3rd, 1930.

From the Department of Surgery, University of Louisville, School of Medicine.

Because of the relative infrequency of cases of this kind, we were prompted to review some of the literature, and have excerpted the reports of two cases:

Case I: A "Herniated Gangrenous Appendicitis" simulating a "Strangulated Inguinal Hernia," was reported by Milbern of Washington State in Northwest Medicine" 1926.

Infant six weeks of age, who cried, kicked his feet, and attracted the mother's attention to such an extent that made an examination and found a small, evidently painful, swelling in the right inguinal area.

At operation a swollen and indurated cord was revealed, with a small hernial sac containing an acutely inflammed appendix. The appendix was removed and hernia repaired.

Case II.: Reported by Seaston of Booth Hall Infirmary, Manchester, England, in the "British Medical Journal" 1927.

Infant six weeks of age, whose mother had noticed a tender swelling in the right groin the day before presenting infant at the hospital. Child was restless and fretful but did not vomit. Mother had given the child some form of laxative.

At operation a gangrenous appendix was found in a small hernial sac. The appendix was removed, and hernia repaired.

Child had a normal convalescence until the sixth or seventh day, at which time he developed a severe enteritis and died on the eleventh post-operative day.

DISCUSSION

D. M. Cox: It was my privilege to assist Dr. Edelen in the operation he so well described. We had no idea that the appendix was in the hernial sac prior to operation, and after making the incision we thought possibly there was a segment of strangulated omentum in the sac. Upon elevating what was supposed to be the spermatic cord, much to our surprise we found it was not the cord but the appendix. According to the history given by the mother, the child had shown no typical symptoms of. appendicitis There had been no vomiting.

The child made an uneventful recovery. The wound remained clean and healed promptly. The testicle was in the scrotum and seemed perfectly normal.

NEWS ITEM

Dr. Irwin H. Cutler announces removal of his offices to 415 West Chestnut Street; ground floor. Opposite Francis Building. Hours: 11-1 p. m. 3-4 p. m., 7-8 p. m. Telephones:Office: City 886. Residence: Mag. 162.

BOOK REVIEWS

TREATMENT IN GENERAL PRACTICE—By Harry Beckmen, M. D., Professor of Pharmacology, Marquette University Medical School, Milwaukee, Wisc. Octavo volume of 899 pages. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, $10.00 net.

The book is particularly valuable because of the great store of *new treatment* which it fully describes and clinically applies. In every case therapeutic measures are given to meet individual requirements. There are hundreds and hundreds of prescriptions, fully written out with quantities and advice on their administration. Prominent consideration is given to dietetics, frequently including complete diet-lists. Minor surgical technic, where indicated, is fully described. Proper emphasis is placed on the modern application of disease prevention.

A delightful feature of the book is the easy readable style in which Dr. Beckman has written. It is personal; it is animated; it is *live*. The facts are conveyed to you quicly, clearly, fully. There is no laborious pouring and searching to find what you want. Into this one volume has been crowded a great store of information which would ordinarily require three volumes.

This new book is already being discussed in professional circles as one of the outstanding contributions to current clinical literature.

THE HYGIENE OF THE SCHOOL CHILD—By Lewis M. Terman and John C. Almack. Price $2.50. Publishers: Houghton Mifflin Company, New York.

This is a revised and enlarged edition of the work that has been used for the past fourteen years in colleges, normals and teachers' reading circles as a standard text book. The authors state that in this edition they have made a serious attempt to reflect changes and progress. The book has been largely rewritten and made over. Facts and figures have been revised and new data added to bring the text up to the present state of our knowledge. The bibliographies are new and contain sampling of the latest most authentic, and most promising work.

Health Officers will find this book valuable in their School Health Work.

WARD ADMINISTRATION—By Gladys Sellew, R. N.

"How to achieve efficiency in the ward" is the subject of this new book. It will be of interest to hospital administrators. W. B. Sauders Compnay, Publishers, Philadelphia.

WOMAN'S AUXILIARY NOTES

"NO ONE NEED HAVE SCARLET FEVER"

***By Mrs. A. T. McCormack**

"No one need have scarlet fever." This is the reassuring title of an illuminating article found on page 20 of the "Parents Magazine" for May, 1930, published at 255 Fourth Avenue, New York City. The article is written by Dr. Gladys Henry Dick, of the John McCormick Institute, of Chicago.

Our President, Mrs. Bates, has asked me to tell you some of my impressions as an interested, though unofficial, observer of a recent Federal Court trial in New York. This trial lasted five weeks, and was the suit of the Doctors Dick, co-discovers of the cause of scarlet fever, its remedy and its preventive, against one of the commercial biological firms. This firm had exploited the Dick discoveries and was manufacturing and selling quantities of the scarlet fever toxin and antitoxin, but was alleged to be doing it improperly. They claimed they were not adhering strictly to the Dick method, yet they advertised their products as standardized by the Dick Test, and, on questioning, acknowledged that they were injecting scarlet fever toxin into the horses for each batch of their biological products.

To make the story a little clearer, may I not go back a few years and give you some of the facts that led up to this trial?

Dr. George F. Dick began research work on the cause of scarlet fever at the John McCormick Institute in 1911. Dr. Gladys Henry joined him in this work in 1913, following a serious attack of scarlet fever, caused by infection through the hole of a rubber glove during the performance of an autopsy on a patient, who had died with scarlet fever. Shortly after Dr. George and Dr. Gladys became jointly interested in scarlet fever, they found themselves, also interested in each other—and, so they married. This happy occurrence makes the romantic story of scarlet fever control and prevention all the more appealing.

Dr. Gladys began her scientific research work in scarlet fever with a review of all the literature available on the subject. Together, they have accumulated over 4,000 different articles and books on scarlet fever for their library, many of these in foreign languages, especially in French, German, Polish and Russian. Incidentally, they both read French and German, and Dr. Gladys has learned enough Russian to translate scientific papers in that language.

During the war, while Dr. George was in service overseas, Dr. Gladys carried on the work, already well started in their little laboratory, experimenting with all types of laboratory animals, including goats and monkeys.

On July 2, 1921, they satisfactorily developed experimental scarlet fever in a human being, inoculating the non-infected throat of a volunteer for-the-service-of-science, with a pure culture of hemolytic streptococcus obtained from the throat of a known case of scarlet fever. From this, the Dicks concluded that they had discovered the particular organism which causes scarlet fever. They proved that this was true when they recovered this same germ from the throat of this volunteer patient, thereby fulfilling the requirements of Koch's Laws.** They had proved, too, that practically no laboratory animals are susceptible to scarlet fever. It is a human disease.

Publication of this fact was withheld, for, the Dicks wished to complete their work by the development of a remedy for scarlet fever patients—an antitoxin—and, also, a preventive, so that children need never have this dread disease.

Consequently, they quietly, patiently, painstakingly labored on with their test tubes, blood agar plates, microscopes and their volunteer patients. It is stimulating to know of the large numbers of men and women who eagerly volunteered for this service to humanity; usually, like the McCormicks, who founded the John McCormick Institute, because they had lost a child or other loved one from this dread disease or because some loved one had been left deaf or otherwise crippled from it.

In April, 1923, however, the Dicks gave the facts concerning their discoveries to the medical profession, and articles further discussing their findings appear at frequent intervals in the American Medical Journal. These discoveries include the Cause of Scarlet Fever (a hemolytic streptococcus); the Dick Skin Test (for determining susceptibility to scarlet fever together with the degree of susceptibility); the Scarlet Fever Toxin for active immunization (5 graduated doses of this will ordinarily prevent scarlet fever); and the Scarlet Fever Antitoxin (for the treatment of patients suffering with the disease); and Methods for the Standardization of each of these to make them safe for use.

Almost immediately, upon the Dick announcement, biological laboratories began the production and sale of these products to the physicians of the country through the druggists. Physicians and the general public, alike, were eager to have these specifics against the age old enemy of childhood, the baffling, unrelenting disease, scarlet fever. However, selfishness seems ever to be seeking a way to assert itself, unfortunately; and prompted, no doubt, by the same motives that governed the old man who killed the goose that laid the golden egg, some of the manufacturers of biologicals became impatient of the slowness of production according to the Dick formula and permitted modifications or unstandardized, impure or unripe products to be put on the market. Consequently, many children were given the immunization treatment with this imperfect material. Of course, they were not immunized. Many of them, later, developed scarlet fever and some of them died. Another deplorable result was that the progressive physicians who had given these children what they believed to be protection against scarlet fever, were nonplussed. They had recommended the treatment to the parents, and then, with their approval, had given it to the children in perfectly good faith. But, here, it seemed that their advice and recommendations had proved to be altogether unsound and unwise.For, had not the child been obliged to take these utterly useless treatments? And, had not the parents had to pay the physician perfectly good money for these useless treatments? Physicians and parents, all, felt that they had been unjustly hoodwinked and the children greatly imposed upon; that, here, was another colossal blunder, impairing health and even endangering life, itself.

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*Informal report June 2, 1930 to Woman's Auxiliary, Jefferson County Medical Society.

When this situation arose, the Doctors Dick were overwhelmed with anguish and remorse. Instead of benefitting the childhood of the world, as they had believed their discoveries of the cause of the disease and specific for it would do, they had merely enabled selfish and commercially minded persons to prey upon the credulity and the pocketbooks of parents, and, through a sense of false security, render the child more helpless than ever against that world stalking dragon, scarlet fever. "What to do?" seemed an unanswerable problem.

Thereupon, the Scarlet Fever Committee, a non-profit making corporation, was organized for the purpose of standardizing and supervising the production of all products pertaining to the use of the knowledge obtained through the Dick discoveries. This is a small group with headquarters in Chicago. The Hygienic Laboratory, the research arm of the United States, functioning under the United States Public Health Service in Washington, also interested in the production of reliable scarlet fever products, cooperated with the Dicks and with the Scarlet Fever Committee in an attempt to find a solution for this grave problem. The Council on Pharmacy and Chemistry of the American Medical Association also lent its aid.

At length, following the precedent of Toronto University for the protection of Dr. Banting's discovery of Insulin for the treatment of diabetes, the Dicks were advised, by the Council on Pharmacy and Chemistry, by the Hygienic Laboratory, and by numerous prominent physicians, to apply for a patent for their discoveries, and, then, to bring suit for infringement against those manufacturers who should put out unlicensed products. The patent was granted. Reliable biological houses and boards of health are licensed under this patent for the production of scarlet fever toxin and antitoxin.

So, at ten thirty o'clock, Monday morning, April 14, 1930, the Federal Court trial, George F. and Gladys Henry Dick versus Lederle Antitoxin Laboratories, Inc., of New York, began in Room 3, of the United States District Court, Southern District of New York, located on the tenth floor of the Woolworth Building.

Judge Francis G. Caffey sat on the bench. This was his first patent suit.

Counsel for the Dicks were Messrs. Wallace Lane and Benton Baker, of Chicago; Oscar Jeffrey and Reginald Hicks, of New York. Counsel for the Lederle Laboratories was Mr. Livingston Gifford, assisted by Mortimer and Wilder, of New York. A mass of evidence was introduced, all of which the judge seemed to learn by heart and comprehend amazingly. Witnesses for the Dicks numbered six.

The first witness was Dr. Morris Fishbein, the versatile and erudite editor of the American Journal of Medicine. He expertly reviewed the scarlet fever literature, described the various Dick publications and announcements and, interestingly, recounted his own extensive research in scarlet fever work. Dr. Fishbein told about the immediate and sustained recognition by the medical profession of the unique discoveries of the Dicks, and their importance.

The next called was Dr. George Weaver, superintendent of the Durand Hospital for Infectious Diseases, affiliated with the John McCormick Institute and Cook County Hospital in Chicago. Dr. Weaver had been one of the earliest research workers seeking the cause of scarlet fever at the John McCormick Institute. Dr. Gladys Dick was under his care during her severe attack of scarlet fever He lauded the Dicks for their painstaking and successful work in a project wherein he, himself, and numerous other associates, had failed. He made a most impressive witness. The next witness was Mr. Stanley Beard, a member of the Board of Directors of the Defendant, the Lederle Laboratories. This came as a complete surprise to the Defendant. Although an adversary, his honest testimony was helpful to the Dicks.

Dr. A. T. McCormack was the next witness. Dr. McCormack testified to the great need of scarlet fever control at all times and to the age old, scientific search of the medical profession for definite knowledge of scarlet fever. He vividly illustrated these needs during the Great War, when he and other sanitarians, in the cantonments, were helpless to check the inroads of the scarlet fever epidemics among the newly recruited troops. Dr. McCormack graphically told of epidemics he had encountered in his service as Health Officer of Kentucky and of the futility of known means of control, or prevention, in his experience, including isolation and quarantine, until the month of March in 1929 when an epidemic occurred at Berea College, with 94 cases admitted the first day. Then, in response to an appeal for advice over long distance telephone, Dr. Gladys Dick, of Chicago, offered her services. Dr. McCormack, unable to pay for her services, thanked her and told her so, adding that the State Board of Health could not even afford to buy the materials that she would need. Generously and graciously, Dr. Dick offered to bring her materials with her, along with several assistants. She came on the next train. And, at Berea, a remarkable piece of work in the control of what seemed an uncontrollable outbreak of scarlet fever, was accomplished.

Dr. McCormack, Dr. J. L. Jones, State Epidemiologist, Dr. Lillian South, State Bacteriologist, and all the members of the State Laboratory force, and its equipment that could be spared, together with the medical and hospital staff at the College, worked in co-operation with Dr. Dick, day and night, for the first week, until the epidemic was under control. About 10,000 nose and throat cultures were made. Students, faculty and townspeople were Dick tested and given the necessary immunization. Of the 2,308 persons skin tested, 21.7 per cent (502 persons) were positive in their reaction, indicating susceptibility to scarlet fever. Of all those found to be positive, 97.1 per cent of the number given the five immunizing doses, were found to be negative upon re-Dick testing. No individual found to be Dick negative developed the disease. Among the 502 susceptibles, 59 developed scarlet fever subsequent to the first dose of immunizing toxin, 4 after the second dose and none after the third dose. Here in 7 days the epidemic was under complete control. Some of those having the disease were given the antitoxin treatment with excellent results. 414 of the 470 or more cases of scarlet fever were hospitalized. No deaths occurred.

About 8 weeks after the outbreak at Berea a mild and long-continued epidemic of scarlet fever in a coal mining camp in Clay, Webster County, suddenly became explosive. An appeal for help from the State Board of Health was immediately answered, and Dr. Dick generously added her services, again coming by train from Chicago, bringing necessary supplies and equipment with her to supplement that of the State Board of Health Laboratories.

Physicians in this little town are a progressive group of country doctors. Months previous, when the scarlet fever cases were mild and less numerous, these good physicians, seeking to do everything possible for the patients, had attempted to immunize a large number of school children. Unfortunately, the products they used were unlicensed. But, of course, they did not know this. They had purchased them from the manufacturers whose products they had supposed were reliable, just as we sometimes buy poor vanilla or inferior canned good for our household needs. We must learn to read labels and get what we pay for! Of course, the children were not protected against scarlet fever. This was demonstrated in numerous instances. The physicians and the parents had become antagonistic to any further immunization procedure—a perfectly natural reaction following their experience. Immediately, quarantine was established, the old-fashioned shotgun quarantine in use during the yellow fever epidemics, and no one was allowed to come into the town or go out until it had been proved that he was not a carrier of scarlet fever. This was determined by means of nose and throat cultures and by Dick skin testing. An emergency clinic for this work was organized in a vacant store. To this the people came. The epidemic was under control in ten days. No cases of scarlet fever developed after the tenth day, although for 69 weeks previous, new cases of scarlet fever had developed almost every week, often among children supposedly immunized with that unlicensed material. From the use of this unlicensed material, severe reactions were frequently noted in the children. Sometimes these reactions seemed worse than many cases of actual scarlet fever. And—still the children were not immunized! Of course, had they been actually immunized these reactions would have been entirely justifiable, for the children would have been protected from the crippling after-effects of scarlet fever sequelae—such as impaired kidneys or heart, arthritic joints or deafness. Dr. Dick explained all this to the physicians and just why their former work in immunization had proved disappointing, and they, in turn, helped to make the general public understand.

One valuable demonstration was particularly helpful. A physician, who was carrying a large number of the scarlet fever patients, was given the skin test by Dr. Dick. Much to his surprise, he was shown to be highly susceptible. Next day, before a large crowd that had gathered to see what was happening at this new clinic, this physician walked forward and asked for the first immunizing inoculation. He is a popular, influential man, and, of course, with his fine example before them, the rest of the crowd did likewise. They all followed the leader. This made working conditions much more agreeable for it is always more satisfactory to give service through understanding and reason than through force of law.

On cross examination, Dr. McCormack gave some valuable and interesting evidence. When asked if he knew whether there is any difference between Dick I. and Dick II., the two strains of germs used in scarlet fever toxin manufacture, he replied, "Only in a general way. I knew that they are both strains of pure hemolytic streptococci, specific for scarlet fever. They are just two families of the same genus.'

"What do you mean by two families?"

"I can illustrate what I mean by citing our early American Colonists. It is exactly like the man that came over in the Mayflower and the one that came to Jamestown, both from an original stock of British families. Now, the germ from Dick I., as tested out, has been grown from repeated descendants of the same family, all the way down. And, Dick II. is another branch of the same family."

"But you do not know the difference between the two families?"

" No. You cannot tell unless they give you the family tree.You cannot tell the difference between the Virginian and the New Englander, your family and mine, unless you have the family tree."

When asked whether in the manufacture of scarlet fever antitoxin in the State Laboratories the culture used was obtained from the Dicks, Dr. McCormack replied, "Yes Sir."

"And you assume that it is what you suppose it to be from the fact that it comes from the Dicks?"

"Yes sir. Exactly. I have just exactly the same kind of faith in that kind of thing as I have in other proved facts. It is like faith is."

"You never had it examined?"

"No, but we proved the specificity by the immunization of a large number of people. We used it during epidemics and stopped the spread of the epidemics. That is the best proof of a remedy for human illnesses because the best proof is on human beings."

As the Lederle Company were using a combination of materials in their inoculations of the horses for the production of their scarlet fever antitoxin in contrast to the method prescribed by the Dicks, which is merely the injection of the specific toxin, the cross questioning of Dr. McCormack included this question:

"Can you tell in detail what they (i. e., the biological manufacturers from whom the State buys its antitoxin) inject into the horses?"

"Only that they inject the toxin into the horses in gradually increasing doses in order to produce the antitoxin, just as is done in human beings. The analogy is the same."

'"But you do not know what else they inject in the horses besides the toxin?"

"No. The toxin is the important thing, the essential thing, Mr. Gifford, in the manufacture of antitoxin. Let me illustrate by an analogy in music. I think I can explain the idea I have about it. The toxin is as necessary in the manufacture of antitoxin as the theme in a piece of music. Somebody writes a catchy tune. Immediately, everybody begins to hum it, whistle it, sing it, play it, and soon nearly everybody wants to put some variations in it, a trill, a quaver, or some changing modification, but, the tune, the theme is still there. If it is not there, if the theme is not preserved, then we have another piece of music. Now, it is the toxin in this thing that is important. The toxin is the theme that is carried through in every bit of it. That is the important thing. If the toxin is not there, it does not make any difference what else is added, it is valueless. If that is there, it is the key to the whole situation. The toxin is what produces the antitoxin in human beings and in animals alike. Like the extra notes and quavers in musical variations, additions to the definite technique in the production of antitoxin destroy its purity and specificity, and, if carried too far, will contaminate it beyond recognition. There may be later themes and other variations discovered, but so far as I know, the toxin is the essential thing in the manufacture of antitoxin."

Concerning puerperal scarlet fever epidemics in hospitals, Dr. McCormack gave interesting experiences from two hospitals in different cities. Puerperal septicemia was reported as the cause of death in several new mothers. The State Epidemiologist was detailed to consult with the attending physicians in the investigation of these epidemics. Here is Dr. McCormack's report:

"Our examination of these cases showed that these women were infected with hemolytic streptococcus that was specific to scarlet fever. They had puerperal scarlet fever.

We found in one institution during the investigation of the nurses, that 23 of these nurses were carriers of scarlet fever, harboring the germs in their throats. They had nursed these women during or following childbirth and had infected them. These nurses were promptly isolated and kept so until the carrier condition cleared up. This stopped the epidemic." The other hospital epidemic was a little more difficult to overcome and—"we had to quarantine that hospital for a little over four weeks before we were able to get it entirely freed from the infection." This, of course, meant the denial of necessary hospital care to many sick persons during the period of quarantine. It also meant great expense to the hospital. The complete immunization against scarlet fever for all nurses attending maternity cases, as now practiced in several hospitals, would have saved the lives of these mothers and also, considerable money and inconvenience for the hospitals.

During the summer of 1929, a member of the Laboratory force went to Chicago and the Dicks generously took him into their laboratory and taught him how to make the scarlet fever toxin. Then, the State Board of Health took out a license for the manufacture of this product and now supplies, free, the physicians of the State with scarlet fever toxin for both the Dick Skin Testing and active immunization.

In the light of recent experiences in prevention and control of scarlet fever in Kentucky, the State Board of Health now recommends that all persons, especially children over two years of age, be given the Dick Skin Test to determine whether they are immune or susceptible to scarlet fever. If susceptible to scarlet fever, that they be actively immunized with the five graduated doses of scarlet fever toxin, or more, if subsequent Dick Skin Tests indicate their need to produce complete immunity. More than five doses are rarely needed to produce immunity.

Dr. C. C. Young, State Bacteriologist of Michigan, testified that he had worked for years in an attempt to discover the cause of scarlet fever, using all the available data, but had never been successful. When the Dick announcement was made, he accepted it unhesitatingly, for he recognized them as authorities in bacteriology. He at once wrote the Dicks, requesting detail information concerning its production and use. Just as soon as he could make the necessary arrangements, he began the production of scarlet fever toxin and antitoxin, which he now supplies to the physicians of the State. His production of these materials has continuously increased. Several times, using the Dick products, he has controlled epidemics in children's institutions.

The opening statements of the Counsel for both sides occupied a day and a half. The five witnesses for the plaintiff—the Dicks—occupied 2 days, bringing the trial to the afternoon of April 17th. Then, the defendant presented witnesses —17 in all, beginning with a Polish translator, a Ph. D. from Poland, now acting as a librarian in one of the Medical centers. This young man was an earnest worker, but was somewhat handicapped by his inability to speak English plainly. It had been supposed by the defendant that identification of the translations would be sufficient proof for the several foreign authorities on which they based their claims. However, it was shown that the translations submitted were at variance with other translations available, and that they showed several inaccuracies, including grave omissions. So, they decided to have the translations made on the witness stand. This was an exceedingly slow and tedious performance, trying alike to the translater, the Judge, the Counsel, and other members of the Court, including the onlookers, of which the observer was one. After a particularly trying day, Counsel for the Defendant apologetically told the Court that he regretted that the translator whom they had employed for this trial had suddenly died. At this, the Polish Ph. D., while translating Palmirski's article, turned to the Judge and in a weak, feeble voice whispered something. The Judge blinked and turning to the members of the Court, smiled and said. "And, he says he's sick—quite sick!" This relieved the tension for that day.

Russian and German translators of Savchencho, Moser and Gabritchewsky, better equipped with English, also took up several days, bringing in different dictionaries to confirm and to contradict disputed interpretations.

Dr. A. R. Dochez was an important witness for the Defendant and was on the stand for several days. He told interestingly about his research and invention of the agar plaque, which the Defendant had claimed formed the basis of their products, together with the prior art which they thought they had gleaned from the aforementioned pre-war foreigners. Dr. Dochez had visited the Dicks in their laboratory in 1913 and discussed scarlet fever work with them. Dr. Dochez stated, as he had previously written, that he had never developed a specific, true toxin for scarlet fever and this was, of course, fatal to their claim. The defendant did acknowledge the use of toxin. No manufacturer uses Dr. Dochez's method alone.

Dr. Dochez had personal magnetism and a friendly manner, which was demonstrated by loyal, admiring witnesses, among whom were such distinguished names as Drs. Park, Amoss, Blake, Stevens, and the Misses Wheeler and Sherman.

It was noticeable that the technical language of most of the scientific witnesses puzzled and irritated the Court. Simple words and explanations were frequently requested. What seemed to be legal filibustering was permissible, but one was impressed that, here, in such a court, it was poor technique.

All the witnesses, however, along with Dr. John Anderson, Vice President of Squibbs, and Mr. W. I. Jamison, Director of the Eli Lilly Biological Laboratories, both of whom the Defendant had subpoenaed, strengthened the Dick claim before they had concluded their testimony.

Scientific experts are essentially honest. They must be, in order to do good work. This was repeatedly proved on the witness stand by these earnest, sincere scientific men and women. However, being human, like us, they are sometimes prone to human weaknesses. Very distinctly the expert testimony of some of the witnesses on the stand demonstrated the unfortunate, always regrettable, but well recognized, scientific jealousy of laboratory workers toward those of their colleagues who have made definite discoveries. For example, apparent evasion and incomplete statements which seemed to be efforts to becloud the truth, but which cross questioning brought out in full, though seemingly reluctantly; the reported loss of an important note book offered in evidence and the double dates appearing on other important reports of experiments, were indicative. The craze for priority is the bane of the research worker—especially, of the non-productive type. Scientists are really very human men and women, although popular impression frequently pictures them otherwise.

One of the high lights of the trial was the attitude of the Judge. He was patience, fairness, wide-awake alertness and constant concentration personified. He never went to sleep in court all through that long five weeks, even during the deadly dullness of some of the foreign translations or the exasperating pauses between some of the questions in cross examination, sometimes only four questions in an hour. Perhaps one reason for his keen, intelligent interest was the fact that he came from a medical family—his father and a brother being physicians.

On the twelfth morning of the trial, the Judge called the counsel to the bench and recommended that a settlement be effected. That afternoon the principals and counsel for both sides met around the table. The Dicks, again, showed their entire lack of personal selfishness and agreed to surprising concessions. The defendant, however, after considering the matter over night, refused to settle. So, the trial continued.

On Monday afternoon, May 12th, counsel for the defendant announced, "The Defense Rests."

Then, Dr. Gladys Dick was asked to take the stand in rebuttal. A thrill of expectancy pervaded the court room. Everybody was keyed to the dramatic possibilities that seemed to portend, and they were in no wise disappointed. Chief counsel for the Defendant straightened his fine, always erect shoulders, and appeared to throw off at least twenty of the seventy odd years he carried so well. The glint in his keen, penetrating eye showed that here, he felt, 'was foremen worthy of his steel,' for he is reputed to be unusually successful and the Dean of Patent lawyers, respected and admired by the profession. Dr. Dick was on the stand for about two and one-half days and kept the court room at the peak of attention every moment. Very simply and modestly she told the romantic story of the Dick work beginning in 1913, incidentally disclosing the fact that they had discovered the cause of scarlet fever—the particular hemolytic streptococcus in 1916. (A streptococcus, you remember, is that beaded chain-like organism seen under the microscope. A hemolytic streptococcus is one that discolors blood. There are several different strains of hemolytic streptococci.) Dr. Dick emphasized always that Dr. George and she did all of their work together. None of it was hers alone or his alone. They planned and developed all of their work together—experiments, records, written reports, official medical papers, everything, was done together. Her recital of the experiences with volunteers for experimental scarlet fever was intensely interesting, and when she described in detail the actual development of the first case of what they called "satisfactory scarlet fever," the atmosphere in the court room was athrill.

Admiration of these two outstanding scientists grew steadily as the trial progressed. Regarding their remuneration for this useful service to humanity, to which they had dedicated their lives, notwithstanding other more roseate opportunities which beckoned to them, the sum that seemed pitifully small and inadequate.

During their long years of work at the John McCormick Institute before the announcement of their discoveries, they had been paid the munificent sum of $50.00 per month and provided with a tiny room or laboratory in which to work. After the war, "in order to earn a living," Dr. George had taken a downtown office and gone into the practice of medicine, while Dr. Gladys continued to keep the routine work in the laboratory going, with Dr. George aiding and co-operating in all new methods and experiments.

Following the announcement of the discoveries, the John McCormick Institute awarded them, jointly, a prize of $10,000.00.

In January, 1926, "for the best research work accomplished during the preceding ten years," Toronto University gave the Dicks, jointly, a fellowship amounting to about $1,100.00.

Prizes and honorary degrees have always been given them jointly. They have been mentioned, also, for the Nobel Prize.

Occasionally fine bits of humor and amusing situations would arise throughout the trial to relieve the monotony of the foreign translations and the ever recurring, hardly pleasing subject of running abscesses on the horses used by the defendant in the manufacture of their products. (No abscesses, sores or scars result from using the method as prescribed by the Dicks for the production of scarlet fever antitoxin.)

In cross questioning Dr. Dick, counsel for the Defendant asked how she figured that 0.1 c. c. of 0.001 dilution of toxin is one skin test dose and, then, that 0.1 c. c. of 0.01 dilution is ten skin test doses.

"Let me show you," she replied. And—she did, using a pencil and bit of paper from her note book, explaining each step as she went along. The Judge, highly amused, followed her every step with alacrity but the questioner got lost in the maze of figures. Reminded one of that very excellent cartoon of Plaschke's in the Louisville Times, of March 6, 1929, showing that little girl of the proverbial schoolmarm type, teaching Chief Justice Taft the Oath of Office for swearing-in President Hoover.

The final argument by counsel began at 3:15 p. m., Thursday, May 14th, with Mr. Lane asking whether the Court wished to limit the arguments to one or two hours. The Judge replied that as much time as necessary was available providing the case was completed Friday, but he positively must close this long-drawn out trial and get to the overloaded admiralty docket. Tomorrow, at the latest, he would render his decision.

Mr. Jeffrey then began argument for the plaintiff with expressions of gratitude for the patience of the Court and hope that the extraordinary amount of evidence to which he had listened would not in any way interfere with his other work.

To this the Judge replied, "Oh, no. I am fortunate. I can forget all about it. You see, I have the bathtub type of mind. Put in the plug and fill it up. Pull out the plug and let it all go. Proceed. Take all the time you need. It won't take me long." He is rare.

Mr. Jeffrey proceeded with an historical resume, showing that the Dicks had worked with full knowledge of the pre-war scientists and their accomplishments, and that following the Dick announcement, full recognition of their findings was hailed as original by the medical profession here and abroad; that the United States Government had also given them full recognition through the Hygienic Laboratory and the Patent Office, which "approves it as novel," had granted a patent for it. Also, manufacturers had approved it. They readily grasped the possibilities of this invention, appropriated it to themselves and began to produce it for sale as soon as they could get the Dicks to show them how to do it. This production had increased tremendously, in Michigan 200 per cent, as testified by Doctor Young.

He discussed the need of a patent and the wisdom of expert supervision and standardization methods in the production of scarlet fever antitoxin in order to protect the helpless little children of the world from imperfect products. Testimony of the Defendants had proved their own use of Dick methods in combination with other methods. The labels on the retail boxes containing their antitoxin read—"Standardized by the Dick Test." Further, that in no case had the Defendant used other methods, alone, but always, in combination with the Dick method, which is, the injection of scarlet fever toxin into the horses. Infringement of the Dick patent, and liability, with need for injunction against Defendant, were proved by Defendants own witnesses. These manufacturers had not capitalized on the "prior art" they alleged the pre-war scientists gave them. Nor, had they depended on the Dochez method and invention alone. But —they had used the Dick discoveries and the Dick method, which had been fully accepted by the medical profession—adjudicated at the bar of scientific opinion, their own peers in their own field.

Mr. Lane, after a few introductory remarks, emphasized the fact that after twelve consecutive years of constant painstaking labor, study and experiment, the Dicks freely gave, without money and without price, the result of their whole work, along with its secrets of discovery, to the world for the benefit of children and all people. But, a part of the world had misused this gift and they soon found that a check was necessary. And, this check is what seems to have caused all the opposition. But—the safety of the lives of our children demands this check, therefore, the patent.

Confusion has been introduced in the minds of some persons by statements that the Dick Test for scarlet fever is like the Schick Test for diphtheria. This is not true. The technique for making the two tests is quite different. The results are different. The Dick Test can be read from 22 to 24 hours after administration. The Schick Test, 48 hours to 5 days later. The Dick Test will show, if positive, a smooth, level spot of red ink color, more or less intensified, and of larger or smaller area, depending upon the degree of susceptibility. Whereas, the Schick Test, if positive, will show a raised lump of "doughy feel," with red coloring. Negative tests show nothing. Corn cakes and wheat cakes are, perhaps, as much alike as postive Dick and positive Schick Tests. No good housewife—or husband either—would confuse corn cakes with wheat cakes!

In the Dick Skin Test, scarlet fever toxin and scarlet fever antitoxin, the world now has, through the medical profession, a bulwark of defense for its children against that age old enemy, scarlet fever, providing the materials are properly made and properly administered. No other method is used for which a single sale of scarlet fever antitoxin is made unless it is combined with the Dick method. No other skin test, no other toxin, for immunization is known to be reliable for scarlet fever. Other methods are acknowledged to be still in the experimental stage. They have never reached a state of sufficient perfection to put them on the market commercially.

Mr. Gifford, in arguing for the Defense, used all the fine points of the law to advantage, steadily maintaining that the Dick Test is merely an employment of the Schick Test and that the Dicks invented nothing new and, therefore, had no right to a patent.

Early adjournment for lunch on Friday, May 16th, was attended, on both sides, with more or less excitement, which everybody, smilingly, tried to keep subdued.

At 2 o'clock expectancy electrified the court room. The Judge, in what seemed an excitable, high-pitched tone for one usually so soft spoken, handed down his remarkable opinion with dignified emphasis.

After a few introductory remarks, he stated that "Facts, not the law alone will engage my statement and control my actions in this case."

He then took up several questions for consideration and later developed them in greater detail, which I cannot give here.

1. "Is the plaintiff's case a fit subject of patent?"

"Yes, in every respect."

2. "Has it been shown that there was an invention by plaintiff?"

"Yes, extraction of soluble toxin is new and valuable contribution. Koch's Laws** give us a basis, an index here. I rely on the law but not on the law alone. Facts are important. The Law of Common Sense is also to be considered."

3. "Are the processes relied upon useful?"

"Yes. Accepted widely, benefitting thousands of children."

4. "Were they anticipated by Dochez or others?"

"No, the toxin extracted in solution is the key to the situation. This, the Dicks discovered. Dochez came later and occupies a narrower field in usefulness. His work does not cover the scope of the Dick patent but is in merely a curative field. His agar plaque is a wholly different matter. The foreigners never came within a thousand miles of it, and it remained for these Americans to solve this problem that had baffled scientific men all the years of the centuries since Sydenham."

5. "Has infringement been established?"

"Yes. Undisputed by defendants own statements."

6. "Is the Skin Test for scarlet fever patentable?"

"Yes. It is a proper subject of patent. Here is new and valuable armament against scarlet fever. The Schick Test was no anticipation, else why didn't people go around for years and determine susceptibility to scarlet fever by the Schick Test? Wouldn't our children's doctors have used it? Wouldn't Dr. McCormack have used it? Of course, they would!"

7. "Accountability?"

"Yes. Plaintiffs are entitled to injunction and damages as it appears the Defendant did infringe with knowledge and intent and the damages should be paid in proportion. I will ask the Master in Chancery to go into that."

With praise for the Drs. Dick and for Dr. Dochez in their work of research for the benefits of the human race, the Judge suggested that they continue their consecrated labors, joining hands for the increased good of public welfare, to which he felt the government might well add its aid. For, although this is a great step forward, a wonderful discovery to have made, there are greater things yet to be accomplished, other great discoveries to be made for better public health and improved standards of living. So far, we have only scratched the surface of better public health.

The entire decree was convincing and eloquent. In fact, it was one of the best public health speeches the observer has ever heard. As soon as this is printed, a copy has been promised to Dr. McCormack and he plans to publish it in the Journal. There, you may enjoy the opportunity of reading the full account of this sketchily reported decree, which seemed, to the little group in the court room, a masterpiece of judicial wisdom, combined with a clear vision of public health possibilities in the future betterment of the human race.

Adjourned at 3:47p. m., May 16, 1930.

**"Koch's laws are now stated as follows: (1) A specific organism must always be associated with a disease, (2) when isolated in pure culture (3) and inoculated into a healthy susceptible animal it must always produce the disease and (4) should be obtained again in pure culture."

Rosenau: "Preventive Medicine and Hygiene." 1921.—P: 526.

PERRY ELECTS OFFICERS

The annual meeting of the Woman's Auxiliary to the Perry County Medical Society was held Monday evening, May 19, at the office of Dr. R. L. Collins, in Hazard. Following the routine business, officers for the ensuing year were elected. They are: President, Mrs. G. B. Wheeler; First Vice-President. Mrs. R. L. Collins;; Second Vice-President, Mrs. G. M. Adams; Secretary-Treasurer, Mrs. G. E. Bowles. An interesting article on "Cancer," taken from Hygeia was read by Mrs. Ben Fitzpatrick.

JEFFERSON'S ANNUAL MEETING

The Woman's Auxiliary, Jefferson County Medical Society, held their annual luncheon at the Brown Hotel on Monday, June 2nd., 1930. Delightful music was furnished by Miss Beatrice Thompson, who sang several songs, accompanied by Mrs. Sydney Meyers.

Dr. W. B. McClure, of Lexington, the speaker, was introduced by our honorary member, Dr. Granville Hanes. Dr. McClure's address was one of interest and inspiration.

Annual reports were given by the President, Secretary and Treasurer, and also by the chairmen of the various committees.

Talks were given by Mrs. W. C. Dugan, Mrs. P. E. Blackerby, and Mrs. A. T. McCormack. The new officers were installed as follows:

President—Mrs. John K. Freeman.
Secretary—Mrs. M. C. Baker.
Treasurer—Mrs. C. G. Arnold.
First Vice-President—Mrs. L. W. Neblett.
Second Vice-President—Mrs. Geo. Leachman.
Third Vice-President—Mrs. Walter Hume.
Fourth Vice-President—Mrs. O. H. Kelsall.
Parliamentarian—Mrs. Philip Barbour.

By Mrs. R. L. McCormack, Secretary.

Kentucky Medical Journal
Published Monthly By
THE KENTUCKY MEDICAL JOURNAL
Incorporated

Entered as second class matter October 22 1906, at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price $5.00
Edited Under Supervision of the Council

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COUNTY SOCIETY REPORTS

Cumberland Valley: Cumberland Valley Medical Society met in Williamsburg, May 7, 1930, for the following program:

Free Diagnostic Heart Clinic, Cumberland College Gymnasium. Conducted by Dr. O. P. Nuckols, Pineville, Chairman; Drs. E. F. Horine, Louisville; J. H. Hendren, Straight Creek; T. J. Ballard, L. S. Siler, H. L. Walden, Corbin; O. D. and G. S. Brock, London; W. R. Parks, Harlan; J. R. Tinsley, Middlesboro; J. G. Tye, Barbourville; A. A. Richardson, Williamsburg; and J. L. Heffernan, Jellico, Tenn.

Scarlet Fever Demonstration, Christian church. Drs. J. L. Jones, L. H. South, Louisville; G. T. Corum, Corbin; C. G. Ellison, L. B. Croley, Williamsburg.

Dinner, Gentry Hotel. Address by J. G. Foley, President, Cumberland Valley Medical Society.

Medical Treatment of Duodenal Ulcer.—Dr. R. Hayes Davis, Louisville. Surgical Treatment. Dr. Irvin Abell, Louisville.

Diseases of the Cardio-Vascular System.—Dr. O. P. Nuckols, Pineville, Chairman. Dr. E. F. Horine, Louisville.

Schilling's Blood Test—Dr. J. D. Allen, Louisville.

Presentation of "Jake Leg" Cases.—Drs. L. L. Terrill, L. S. Siler, and B. J. Edwards, Corbin.

Preparation of Biologics (moving pictures). Parke, Davis & Co.

Night Program at Corbin

The Whitley County Medical Society, Corbin City Medical Society, Woman's Auxiliary of the Whitley County Medical Society, Woman's Improvement League. Rotary Club, Kiwanis Club, Parent-Teachers Association, United States Spanish War Veterans, American Legion, and the Ministerial Association were hosts to the Cumberland Valley Medical Society at a banquet May 7th, at the Christian Church, Corbin, 6:30 p. m., in honor of Dr. and Mrs. Irvin Abell, Dr. and Mrs. R. H. Davis, Dr. E. F. Horine, Dr. J. D. Allen, Louisville, after which Dr. Abell gave a public address at the Hippodrome Theatre, on the "Value of Health." Dr. L. L. Terrell, Corbin, was master of ceremonies.

The following committees assisted in this meeting:

Reception Committee: W. P. Davis, Miss Sarah Wentzell, Chairman, R. D. Smith. F. B. Heath, Mrs. F. B. Heath, John Bowling, Dr. W. H. Jones, H. J. Tunstall, Jesse Carr, Steely Terrell. Mrs. Geo. H. Buck, I. B. Lower, and Dr. L. L. Terrell.

Programme Committee: Dr. Geo. H. Buck, Chairman, Dr. Geo. T. Corum. Dr. J .E. Parker, Dr. O. L. Richmond. Dr. L. S. Siler, Dr. B. J. Edwards, Dr. T. J. Ballard, chairman, Dr. F. S. Smith, Dr. M. W. Steele, Dr. E. L. Harmon, Dr.

W. M. Cox, Dr. H. L. Walden, Dr. S. T. Jarvis, and Dr. A. C. Fosler.

Transportation Committee: Dr. C. A. Moss, Mayor Sproles, Chairmen, L. L. Mauney, J. O. Martin, Fred W. Oakly, Robert Blair, O. L. Arnold, W. W. Lawson, Tom Gallagher. (The Transportation Committee escorted Dr. Abell from Williamsburg to Corbin.)

Entertainment Committee: Mrs. B. J. Edwards, Mrs. A. C. Foster, Chairmen, Mrs. T. J. Ballard, Mrs. L. S. Siler, Mrs. O. L. Richmond, Mrs. H. L. Walden, Mrs. L. L. Terrell, Mrs. F. S. Smith, Mrs. J. H. Parker, Mrs. M. W. Steele, Mrs. G. T. Corum, Mrs. Lura Bryant, Miss Nannie Bryant, Mrs. J. A. Sproles, Mrs. L. L. Mauney, Mrs. J. O. Martin, Mr. and Mrs. G. B. Lowery, Mr. and Mrs. G. W. Campbell, Miss Evelyn Tipton, and Miss Margaret Ann Kelly.

After the meeting the visitors were entertained at the palatial home of Mr. and Mrs. Galvert until the midnight train for Louisville.

Dr. C. A. Moss was chairman of the Committee on Arrangements for the Williamsburg meeting.

The success of this meeting was due to the untiring efforts of the officers and members of the Whitley County Medical Society. The society adopted a resolution of thanks for the profession of Williamsburg, Corbin, the ladies of the Christian Chuch, The Gentry Hotel, and the various organizations that assisted at this meeting.

J. G. FOLEY, President.
O. P. NUCHOLS, Secretary.

Christian: The Christian County Medical Society held its May meeting at Hotel Latham. There were a number of visitors from Tennessee and surrounding communities of Kentucky. Dr. R. L. Sanders of Memphis, discussed "Some Phases of Cholecystitis." Lantern slides and a discussion of the clinical analysis of 100 cases of "Acute and Chronic Cystities" featured a lecture by Dr. T. D. Moore, of Memphis.

The physicians present were: M. L. Hughes, Clarksville; Bryce Runyon, Clarksville; J. W. Ross, Clarksville; Frank Runyon, Clarksville; M. L. Shelby, Clarksville; M. A. Gilmore, Princeton; B. F. Boone, Jr., Elkton; S. H. Williams, Crofton; B. G. Argabrite, Greenville.

F. M. Brown, D. H. Erkiletian, F. M. Stites, J. E. Stone, J. G. Gaither, P. E. Haynes, C. J. Morris (W. S. H.) Austin Bell, B. A. Caudle, J. J. Ezell, J. W. Harned, R. L. Woodard, W. E. Gary, Randolph Dade, H. W. Watts, Pembroke; W. S. Sandbach, Pembroke; John Futrell, Cadiz; Elias Futrell, Cadiz; T. D. Moore, Memphis, Tenn.; R. L. Sanders, Memphis.

Franklin: The Franklin County Medical Society met Thursday, May 1, 1930, at 12 o'clock noon in the Writing Room of the Capital Hotel, with the following members present: Drs. Stewart, Coblin, Darnell, Travis, Patterson, Ginn, Budd, O. T. Colman and Minish.

The Society was called to order by the President, Dr. John Patterson.

Owing to the absence of the member in charge of the regular program, a discussion of clinical cases was had. Dr. G. A. Budd reported a case of Jamaica Ginger Multiple Neuritis of legs and arms of six weeks standing.

Dr. F. M. Travis also reported a case of the same trouble, which had recently come to the State Reformatory from Lexington. Dr. Budd's case came from Richmond, Ky.

A general discussion followed more expecially as to the poison producing the disease.

Dr. John Stewart reported on the results of the Red Cross Tubercular Clinic which was held on April 13th and 16th, under the supervision of Drs. Lock and Turner of Louisville. More than ninety people were examined with twenty or more positive cases and fifteen or more suspects. Another clinic will be held later in the year as all who presented themselves for examination could not be examined during the two days.

The Society then adjourned to the Hotel Dining Room for lunch.

L. T. MINISH, Secretary.

Scott: The Scott County Medical Society met at the City Hall, 7:30 p. m., June 4, 1930, Dr. E. A. Anderson, presiding.

Visitors present: Dr. Elfie Graff, Director of the Infant Welfare and Pre-school Demonstration; Dr. John Scott, of Lexington; Dr. Yates, of Lexington; and Dr. Gayle Crutchfield, recently from Europe. Members present: Drs. D. B. Knox, H. V. Johnson, W. S. Allphin, C. T. Lancaster, S. S. Amerson, L. L. Cull, L. F. Heath, P. H. Crutchfield, also the following nurses, Miss Zurilda Collins, Miss Elizabeth Goforth, Miss Sallie Tarlton and Mrs. Marie Adams.

Minutes of previous meeting read and approved.

First speaker on program was Dr. Graff, who in a few remarks very ably and thoroughly explained to the society the method of procedure of the demonstration being put on in Scott County, and invited them to attend at any time and especially pre-natal demonstrations and assured the physicians that she would appreciate any suggestions and all co-operation possible for the interest of Scott County people.

This was followed by a few well placed remarks and statistical reports on Congenital Syphilis of the pre-natals by Dr. H. V. Johnson, after which we were entertained by an excellent paper on the Tonsils by Dr. Yates, of Lexington, discussions were made by Drs. Graff, Scott, Gayle Crutchfield, Johnson and others. This was a very enjoyable meeting.

We are glad to have visitors from any section.

A. STEWART, Secretary.

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KENTUCKY MEDICAL JOURNAL

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Being the Journal of the Kentucky State Medical Association
Published Monthly under Supervision of the Council
Editorial and Business Office, Corner State and Twelfth Streets. Subscription Price, $5.00 Single Copy, 50 cents
Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 8, 1917, authorized May 25, 1920.

VOL. XXVIII. BOWLING GREEN, KY., AUGUST, 1930 No. 8

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KENTUCKY MEDICAL JOURNAL

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Published Under the Auspices of the Council

VOL. XXVIII. BOWLING GREEN, KY., AUGUST 1930 No. 8

EDITORIALS

RESERVATIONS AT BOWLING GREEN

There will be ample room for the annual meeting at Bowling Green, September 15th to 18th, for every member of the Kentucky State Medical Association. In order to be assigned to rooms, however, you should write President H. H. Cherry, Bowling Green, Kentucky, asking him for reservations. The newest dormitory will of course, be reserved for physicians who will be accompanied by their wives. The rooms will cost $1.00 or $1.50 a day for each person and we will have our meals together in the college cafeteria.

The program, which Doctor Scott has arranged, is completed, and will pass in review the most important subjects that confront the active medical practitioner today.

The Bowling Green meeting promises to be the most important ever held by the Association and advance reservations indicate a very large attendance. Please get your reservations in immediately.

THE COMMITTEE ON THE COST OF MEDICAL CARE

From time to time physicians in Kentucky will receive communications from The Committee on the Cost of Medical Care or from chairmen of some of its sub-committees. These communications should be carefully studied, and, when requested, thoughtfully and painstakingly replied to.

These studies, when finished, will probably more profoundly affect the practice of medicine than any other plan which has yet been in effect. Recent reports have indicated the broad character of the studies. In one middle western county recently surveyed, the expenditures for various kinds of medicine constituted over one-third of the total expense of medical care, and were 20 per cent greater than the cost of physicians' services. It has also become apparent that a great deal of money is being spent for useless medicines and for various irregular forms of treatment which do the patient no good or which may result in positive harm.

The aim of the committee is to study the problem described by Dr. Olin West, Secretary of the American Medical Association, as the one outstanding problem before the medical profession today. This, he says, is that involved in "the delivery of adequate, scientific medical care to all the people, rich and poor, at a cost which can be reasonably met by them in their respective stations in life." It is apparent that this important problem can only be solved if the committee is supplied with accurate data from every physician who is honored by receiving a request for co-operation.

At its meeting on May 3rd, the committee adopted the following three principles as basic:

1. *The personal relation between physician and patient must be preserved in any effective system of medical service.*

Medical service is and doubtless, by its very nature, must remain a distinctly personal service. Even in this age of standardized commodities for the table, ready-to-wear clothing, and interchangeable spare parts for all types of machines, there has been no plan suggested for the reduction of medical diagnosis and treatment to basic units which can be ordered from traveling salesmen or acquired through correspondence courses. The physician must see his patient and see him, in many cases, over an extended period of time if the diagnosis and treatment are to achieve the greatest possible accuracy and efficiency. There is no substitute for personal observation.

Man is not a standardized machine and each individual reacts to the conditions of life in a manner in some respects unique. In the treatment of disease, this individual variation is a factor of great significance and can receive due consideration only when the practitioner has known the patient for a considerable time and maintains a personal relation with the patient.

2. *The concept of medical service of the community should include a systematic and intensive use of preventive measures in private practice and effective support of preventive measures in public health work.*

The cost of adequate curative treatment is now high and may continue to increase as expensive procedures resulting from scientific progress become more widely used. Sickness, in addition, involves other personal and social costs, some of which cannot be measured in monetary terms.

The outstanding achievements in scientific medicine have been made in the preventive rather than the curative field. Knowledge now available for the control of malaria, tuberculosis, small pox, diphtheria, pellagra, typhoid fever, hookworm disease, and goiter, if effectively applied, would make unnecessary a considerable portion of the present expense for the cure of sickness.

3. *The medical service of a community should include the necessary facilities for adequate diagnosis and treatment.*

From the standpoint of effective diagnosis, many diseases, such as tuberculosis, cannot be recognized promptly in their early stages without the aid of elaborate technical equipment. From the standpoint of adequate therapy, if the best of modern technique is not immediately available, complete cures are either delayed or rendered impossible of attainment. To cite a specific illustration of the improvement of modern therapeutic procedures over those of ten years ago, the time required for treatment of fractures of the hips and the percentage of permanent invalidity resulting from that injury have each been reduced by more than half.

We cannot be content with anything except the best possible service that modern science can provide and it is, therefore, imperative that modern scientific equipment for the diagnosis and treatment of disease be available to the practitioners of medicine in every community.

A special committee of private practitioners, of which Dr. Stewart R. Roberts, of Atlanta, is Chairman, has been appointed. Dr. Roberts is an honorary life member of the Kentucky State Medical Association and we assure him and his committee that the profession of Kentucky will co-operate with him in every possible way.

DISTRIBUTION OF BIOLOGICS

We are publishing herewith a resolution unanimously adopted at the annual meeting of the Kentucky Pharmaceutical Association at its recent joint meeting. The relations between the physicians and pharmacists in Kentucky have been so cordial that we feel sure this resolution will be considered very sympathetically by the several county medical societies. Of course, the druggists recognize the impossibility of drawing hard and fast lines in many of these cases, but it is clear that people who are able to pay for these important adjuvants to modern scientific medicine should not be pauperized by having them furnished free. There should be no practical difficulty in adjusting the matter.

In every county in the state which has a drug store, one has been selected as the depository for the products of the Gilliland Laboratories, with which the State Board of Health has contracted for the distribution of biologics. The druggist who hold this contract receives 25 per cent of his sales, and, as the products are assigned to him, this assures a reasonable profit. It is perfectly evident that biologic products should only be kept in a refrigerator and not near enough the ice to freeze them.

The Journal suggests a joint meeting of the county societies and the druggists to discuss these problems frankly and arrive at a just solution of any difficulties. At these same meetings the attention of our druggist friends should be brought to the fact that a minority of them insist in counter-prescribing, which is a violation of the law and of honorable pharmaceutical usage.

The State Board of Health is fortunate in having for many years a distinguished member of the Pharmaceutical Association as one of its members. This has enabled us to solve problems that arise under the administration of the Food and Drug Act so as to make them satisfactory to both professions.

The resolution follows:

"WHEREAS, it appears to the members of the Kentucky Pharmaceutical Association at its 53rd Annual Convention that a great abuse has arisen amongst physicians of this State in the sale and distribution of Biologics, Serums, Vaccines and Drugs distributed by the State Board of Health and intended for the use of the indigent sick, and

WHEREAS, it appears that physicians are obtaining from the State Board of Health Biologics, Serums, Vaccines and Drugs intended to be dispensed to and administered only to the sick unable to pay for medicines and many of these physicians in turn are administering these products to persons well able to pay and said physicians are charging the public full price.

THEREFORE, BE IT RESOLVED by the Kentucky Pharmaceutical Association, that the State Board of Health of Kentucky in the future

1st. Discontinue the promiscuous distribution of Biologics, Serums, Vaccines and Drugs.

2nd. That these products be only distributed to County and City Health Officers, authorized public health nurses and free clinics maintained by the State Board of Health under the state laws.

3rd That a record be kept by the County and City Health Officers and others distributing same, showing the date, the product used and the name and address of the person to whom the same was administered, and be open to public inspection.

4th. That the State Board of Health require the same condition of storage of said products in the hands of physicians as is now demanded of druggists.

ORIGINAL ARTICLES

SCHILLING'S DIFFERENTIAL BLOOD COUNT*

By John D. Allen, A. B. M. D., Louisville

Research Laboratory, Louisville.

Within the past year the writings of Schilling, a German clinician and hematologist, were translated into English. Since that time a number of hospitals and most of the private laboratories have adopted Schilling's differential count as a matter of routine, in preference to our conventional count. Having received a number of inquiries in regard to the significance and value of Schilling's count, I thought perhaps a brief discussion of the subject might be of interest.

For the past six or eight months we have checked all of our routine blood counts according to Schilling's method, partly to evaluate the method, and partly to inform ourselves on the technique, character of cells and interpretation of same, and while perhaps we are not as enthusiastic as some of his followers, we have been able to verify some very interesting facts and have become thoroughly convinced that his method, which gives us an insight into the part played by the hematopoietic organs in infections is preferable to our conventional count, which as a rule is mechanically done, mechanically interpreted and applied.

The differential blood count, the most used, and perhaps most abused of all our laboratory diagnostic methods, has not been materially changed or improved since its conception. The hematologist, perhaps because interested in newer and more spectacular fields, has relegated the differential count to the technician and interne. It is true, that the oldest hematologists, recognized a difference in the size, shape and segmentations of the nuclei of the neutrophiles or polymorphonuclear cells, that this difference in the nuclei was due to the age of the cell was also recognized, but no diagnostic or prognostic significance was attached to this until Arnith, a few years ago, attempted a classification according to the segmentations in the nuclei. This same classification much simplified forms the basis of Schilling's count.

Schilling's count is not a radical step. The principle underlying our conventional count, the relative relation of the neutrophiles and lymphocytes is still conserved. However, his clinical observation combined with the utilization of the fact that normally only mature white cells are found in the peripheral circulation, and that immature or young forms are found only following stimulation of the bone marrow and other hematopoietic organs, resulted in a classification which gives us an interpretation not possible to attain by the older method. Furthermore, he conceives three sources for the white blood cells; the bone marrow for the granulocytes, the lymphatic system for the lymphocytes, and the endothelial system for the monocytes. As lymphocytes, he recognizes only small lymphocytes, and the large lymphocytes and transitionals are classed as monocytes. The eosinophiles and basophiles are retained as such, and under the heading of neutrophiles he has produced a new sub-classification according to the nuclei and age of the cell. Thus, substituting for our polymorphonuclears—myelocytes, juvenile, staff or stab, and segmented cells; each being differentiated according to the granulations in the protoplasms, and the size, shape and segmentation of the nucleus.

As myleocytes, he designates cells with a large round or oval nucleus, which is vesicular and coarsely granular, taking a faint stain. The cytoplasm of these cells is finely granular and takes a faint blue stain. These are the parent neutrophilic bone marrow cells and normally are not found in the peripheral circulation, and occur in the peripheral circulation only following extreme bone marrow irritation.

As juveniles, or young cells, he classifies those with a sausage or bean shaped, vesicular, distinctly plotted, faintly staining nucleus. The cytoplasm is very much the same as mature cells, at times taking a light blue stain with indistinct granulations. These cells normally are not found in the peripheral circulation and appear there following bone marrow stimulation or irritation.

In his staff cell, which is smaller than the juvenile, the nucleus is T. U. or V. shaped, but not segmented, and principally in this respect differs from the mature segmented cell. Three to five per cent of the white cells are normally of this type, an increase above this percentage being indicative of bone marrow stimulation.

The segmented cells are the mature neutrophiles, in which the nucleus has separated into two or more segments. These cells constitute 67% of the white blood cells, normally found in the peripheral blood.

Our conventional count does not take into consideration the difference in the segmentation in the nuclei of the neutrophiles. Schilling, on the other hand, appreciating that the difference in segmentation is due to the age of the cell and that the younger cells are found in the peripheral circulation, only as a

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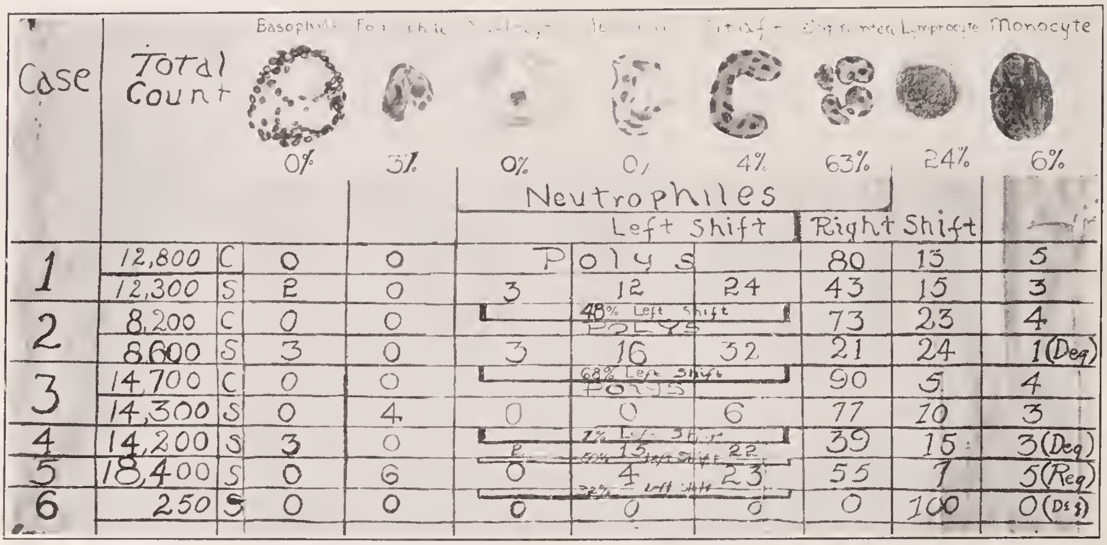
*Read before the Jefferson County Medical Society, March 3, 1930.

result of bone marrow irritation, uses his classification as a measure of the toxemia of an infection and by a close blood study on known clinical cases, has been able to chart the response of the hematopoietic organs in practically every known disease. Instead of considering the neutrophiles or "polys" as a group and expressing them in a total percentage, he classifies them according to age, and determines their relative age by the character of the nucleus, and thus gives us an insight into what is taking place in the bone marrow, the origin of the neutrophiles, under certain specific conditions. His theory being that toxins, especially bacterial in origin, either stimulate or depress the bone marrow and thus influence the supply of young cells into the circulation, and that a careful differential count according to his classification, determines whether or not we are dealing with a regenerative, a degenerative, or a physiological leucocytosis, or leucopenia. The peripheral blood picture in other words reflects the status of the hematopoietic organs. Diseases or toxins attacking these organs find expression in the peripheral blood, and the character of cell in the differential count determines which organ is being attacked, and to what extent. Toxins from pyogenic infections irritate the bone marrow and depress the endothelial and lymphatic systems, thus causing an increased production and increased use of young or premature neutrophiles, and a decrease in the lymphocytes and monocytes. The greater the stimulation, the younger the cell found in the peripheral circulation, and the younger the cell the less segmented is the nucleus. Therefore, the finding of neutrophiles with non-segmented nuclei in the peripheral circulation means extreme bone marrow irritation; on the other hand, the complete absence of non-segmented nuclei means bone marrow inhibition. The percentage of cells of this type determines the degree of irritation or inhibition and presents a regenerative or degenerative blood picture, according to changes in the nuclei. As the infection subsides, the percentage of lymphocytes and monocytes returns to normal, as do the eosinophiles. The presence of basophiles means the defensive forces are being broken down.

The differential blood count potentially holds wonderful diagnostic and prognostic information, but because of the cross currents naturally expected in the blood stream, due to complicated infections and individual susceptibility, we are not able, even with Schilling's method, to exhaust these possibilities.

Just as the clinician after careful study, elicitation and compilation of symptoms, is able to diagnose and forecast impending danger, or improvement, so the hematologist is able to elicit the corresponding symptoms in the differential blood count. In other words, every clinical manifestation has its counterpart in the hematopoietic organs, expressed in the peripheral blood stream by cells characteristic of the organs attacked; the nature and severity of the offense determining the number and character of cells. Thus, briefly expressed, is Schilling's theory, substantiated by a study of bone marrow and blood smears in known clinical cases.



Case	Total Count		Basoph[illegible]	[illegible]		[illegible]	[illegible]	Seg[illegible]	Lymprocyte	Monocyte
			0%	3%	0%	0/	4%	63%	24%	6%
					Neutrophiles					
						Left Shift		Right Shift		
1	12,800	C	0	0	Polys			80	13	5
	12,300	S	2	0	3	12	24	43	15	3
2	8,200	C	0	0		48% Left Shift POLYS		73	23	4
	8,600	S	3	0	3	16	32	21	24	1(Deg)
3	14,700	C	0	0		68% Left Shift POLYS		90	5	4
	14,300	S	0	4	0	0	6	77	10	3
4	14,200	S	3	0		7% Left Shift		39	15	3(Deg)
					2	50% 13 Left Shift	22			
5	18,400	S	0	6	0	4	23	55	7	5(Reg)
						32% Left Shift				
6	250	S	0	0	0	0	0	0	100	0(Deg)

SCHILLING'S HEMOGRAM WITH CHART

SCHILLING'S HEMOGRAM WITH REPORT OF CASES

The above Schematic arrangement of white cells is Schilling's hemogram. The first cell pictured is the basophile. This cell normally does not occur in the peripheral circulation (at most in the proportion of ½ of 1%), and when found indicates a loss of resistance on the part of the patient, or means the defensive forces are being broken down. Next is the eosinophile.

This cell normally is found in the peripheral circulation in the proportion of 3 to 4%. The eosinophile is the most sensitive of all the white blood cells and is the first to disappear in acute infections, and the first to return as recovery takes place. Therefore, the absence of eosinophiles in the differential count is unfavorable and their presence a favorable finding.

The third cell is the myelocyte. This is the parent bone marrow cell and normally is not found in the peripheral circulation. The presence indicates extreme bone marrow irritation of toxemia, therefore a most unfavorable finding in a differential count.

Next, is the juvenile, developed from the myelocyte, also a young bone marrow cell, which normally is not found in the peripheral circulation. Its presence indicates extreme bone marrow toxemia, or irritation, consequently an unfavorable finding.

The fifth, or staff cell, is a stage in the development between the juvenile and segmented. Therefore, a young bone marrow cell found normally in the peripheral circulation in the proportion of 4%, an increase above this indicating bone marrow irritation. The mature bone marrow cell, the segmented, is normally found in the perperiheral circulation in the proportion of 63%, an increase is noted in pyogenic infections or any bone marrow stimulation.

The last two cells pictured, the lymphocyte and monocyte, are derived from the lymphatic and endothelium systems, respectively, and are normally found in the proportion of 24 and 6% in the peripheral circulation. Both cells have a tendency to disappear in acute pyogenic infections and return as infection is being overcome. An increase in monocytes indicates as a rule a subacute, an increase in lymphocytes, a chronic infection.

An increase in the non-segmented neutrophilic cells, namely the staffs, juveniles, and myelocytes causes a left shift in the gram. An increase in the segmented a right shift. A left shift indicates bone marrow stimulation, usually found in infections. A right shift a favorable finding. The percentage of the shift is determined by the relative proportion of non-segmented and segmented neutrophiles. A regenerative or degenerative shift by the character of the nucleus, depending upon the severity of the toxemia of the infection and its effect upon the undeveloped cell.

Case 1. This is a case of appendicitis. I was called by the attending physician to make a Schilling's count. An hour later the patient was taken to the hospital, where the routine or conventional count was made by the technician. A review of the two counts on chart is interesting. The old or conventional count, which was made an hour after the Schilling's count, shows a leucocytosis of 12,800 with a "poly" count of 80%. According to our interpretation of the conventional count this is not an alarming or serious picture, rather what we expect to find in a benign case of appendicitis. An interpretation of the Schilling's count, according to Schilling's idea, shows leucocytes of 12,300, basophiles 2% (indicates loss of resistance) unfavorable finding, eosinophiles 0%, unfavorable finding (eosinophiles disappear in severe infections), myelocytes 3%, very severe bone marrow irritation (unfavorable finding), juvenile 12% (extreme bone marrow irritation), unfavorable finding. Staff 22%, also indicates a severe bone marrow irritation (unfavorable), segmented 45, making a decided left shift of 48% (unfavorable finding). Monocytes and lymphocytes reduced, both unfavorable findings, showing acute infection with loss of resistence. The whole picture very unfavorable according to Schilling's interpretation. Immediate operation indicated. Patient operated on as soon as hospital reached, showed gangrenous, ruptured appendix.

Case 2. This case is representative of the group which shows a disappointing blood picture, according to our conventional method. Patient, middle aged woman, had discharging ear for several years, suddenly developed symptoms of mastoiditis; taken to hospital where blood count made by technician showed 8,200 with a "poly" count of 73%. The doctor was disappointed in blood count, (practically a normal picture according to our conventional count). Feeling that patient should show a higher leucocytosis, he asked me to check it. I checked it according to Schilling's method, with the following results. Total count 8,600. Basophiles 3% (unfavorable finding, indicating loss of resistance).Eosinophiles 0%, unfavorable finding, myelocytes 3%, very unfavorable, indicating extreme bone marrow toxemia. Juveniles 16%, also unfavorable, indicating extreme bone marrow toxemia. Staffs, 32%, indicating bone marrow irritation, (extreme left shift of 68%). Segmented 21%, with reduction in monocytes and lymphocytes. Staff cells of the degenerative type. Schilling's differential count indicated extreme bone marow toxemia, resulting in bone marrow inhibition which accounted for low white count. Very unfavorable blood picture. Operation indicated. An analysis of the conventional count made by technician, on the other hand, was practically within normal limits, and did not suggest such a conclusion. Operation performed, and culture from mastoid showed streptococcus mucosus.

Case 3. I was called by attending physician to make Schilling's count on a young woman with pain in lower right abdomen. Count made and results with opinion given the doctor. Patient was sent to the hospital, where routine count was made by technician, with following results. Total leucocyte count 14,800, "polys" 90%. According to our conventional count this was a pus condition. An analysis of Schilling's count made before patient entered hospital was as follows: Total count 14,300. Basophiles 0%, favorable finding, eosinophiles 4% favorable finding (since eosinophiles as a rule disappear in acute pyogenic infections). Myelocytes 0%, favorable finding, juveniles 0%favorable finding, staff 6%, practically normal finding. Left shift only 7% (shift being mainly to the right). No evidence of bone marrow toxemia; according to Schilling's interpretation, this is a liberation leucocytosis and does not indicate a pyogenic infection. This information was given attending physician, and patient was sent to the hospital for observation. This patient had an uncomplicated calculus in right ureter, and the leucocytosis was of the liberation or physiological type.

Cases 4, 5, and 6 are illustrative of the finer points of differential diagnosis possible with Schilling's differential count. Case 4, was a case of streptococcic septicemia. A glance at the chart shows a pronounced left shift of the degenerative type. Case 5, a case of gonorrheal salpingitis, a left shift of the regenerative type, with eosinophilia, which differentiates a gonorrheal from other pyogenic infections. Case 6, a case of sepsis with complete bone marrow paralysis, no granularcytes (bone marrow cells) found in differential count. This is a terminal condition. Patient died about ten hours after count was made.

CONCLUSIONS

The cases here reported have been selected from several hundred. Not as representative cases, but cases which show the results possible to obtain with Schilling's count. Such results are not always obtained. In many cases we have been unable to detect any appreciable advantage in Schilling's count. The average results, however, have been most gratifying, and we are of the opinion that if the count is correctly made and intelligently interpreted, it is a wonderful aid to clinical diagnosis and much superior to our conventional count.

DISCUSSION

Frank M. Stites: I have been following Schilling's method of differential leukocyte count for several weeks, and it has been of great help in a diagnostic way. Schilling's book is extremely interesting and it requires considerable study and detail work to become thoroughly familiar with his method. I have never heard a better interpretation of any book or method than Dr. Allen has given us in his essay. I can add very little to the subject in a technical way. His cases are characteristic of the few that I have had to differentiate. I recall one in particular that I would like to add to his group.

A girl, aged nineteen years, had a leukocyte count by the conventional method of 12,000. She had complained for a day of right abdominal pain, increasing in severity. I made the provisional diagnosis of appendicitis. A surgeon was called who expressed the belief that the patient probably had appendicitis, but as the case did not seem urgent we decided to use palliative measures for a short time. The patient was admitted to the hospital for further observation. The following morning I made another leukocyte count according to the method of Schilling, which showed the definite features so well described by Dr. Allen. The surgeon was recalled and operated immediately, finding a gangrenous appendix. The leukocyte count by Schilling's method, both at the hospital and my office, was 12,700. I think this is a method we are going to have to adopt as a routine measure. Some of the hospitals have already adopted it and have found it a great help, particularly in obscure cases. The staining as mentioned by Dr. Allen to show the regenerative and degenerative cells is a little more difficult than the ordinary stain that we have been using in our routine work, but it enables us to differentiate the types of cells shown on Dr. Allen's diagram. If the Giemsa stain is used it requires more time, but is well adapted to cases that are not critical and where haste is not urgent. I believe eventually the Giemsa stain will be used instead of the Wright stain in the routine examination of blood cells

Benjamin L. Brock: I have enjoyed Dr. Allen's paper very much. I have been particularly interested in his work along the line he described in relation to similar work I have been doing in tuberculosis at Waverly Hill Sanatorium. During the past year I have studied forty cases, examining the blood according to the conventional method at intervals of two weeks. Although I have not studied the cells and their nuclei for differentiation as to the age of the cells, I have noted quite frequently, particularly in the acute types of cases with fever and active clinical symptoms and also in the pathologically progressive cases, that the type of cells we see in tuberculosis are the young cells corresponding to the type described by Dr. Allen. I have rarely seen the youngest type of myelogenous cell in tuberculosis however.

I think an important point in the study of the blood in tuberculous patients is to observe not only the neutrophile, but also the monocyte and lymphocyte. I have found that according to the Medlar technique that an elevation in the percentage of monocytes together with an elevation in percentage of neutrophiles usually means that we are dealing with a septic type of blood picture.

Dr. Allen spoke of an elevation of lymphocytes in his non-tuberculous cases as indicating chronicity. In tuberculosis an elevation in percentage of lymphocytes, provided the monocytes and neutrophiles are within normal limits, means that the case is a very favorable type.

It has been shown within recent years that the monocyte is responsible for the dissemination of the infection in tuberculosis. In other words, the monocyte is the type cell which is actually concerned in the distribution of tubercle bacilli to healthy tissue in the body. I think that the future study of the blood will be to determine the mechanism which controls the normal output of leukocytes; in that way, we may be able to find some method of controlling the output of these cells in pathologic conditions.

In some recent work at the Rockefeller Institute, which is as yet unpublished, Doan from tissue cultures of monocytes, has been able to obtain an extract which when injected in guinea pigs previously infected with tubercle bacilli, not only lower the number of monocytes in the blood stream but definitely increases the life of the animal. This would indicate that a future study of the blood along these lines may be a solution in the treatment of certain diseases or at least may be a great help.

A. C. Kolb: Dr. Allen spoke of the increased percentage of eosinophiles in acute tubal infections. In one of the Southern states a few years ago, I recall making a blood count for a woman sent into the hospital for chronic appendicitis. The differential count showed 9% eosinophiles. An examination of the feces revealed a severe hook worm infection. Treatment was administered and one hundred and forty-four worms were collected.

I wish Dr. Allen would tell us in closing, if the possibility of intestinal parasites, especially in sections where such conditions are frequently found, might not complicate the blood picture, especially as to the percentage of eosinophiles in such cases as he mentioned.

John D. Allen, (in closing): I appreciate the discussion. In regard to eosinophilia as mentioned by Dr. Kolb: A marked increase in eosinophiles generally indicates a parasitic infection, with the production of toxins.

Schilling has done some work in tuberculous cases. In acute, active cases of tuberculosis, the cells are always of the regenerative and not the degenerative, type. His explanation is that the increase in monocytes in tuberculous cases is an active process.

Arnold's method is very much more complicated than Shilling's and consequently not suitable for routine work. I am now using Schilling's count in preference to our conventional method. Many men have made the statement that it is no more trouble and can be done in about the same length of time. This has not been our experience. Schilling's count requires intensive study of the individual cell, whereas in our older methods we merely differentiate between polymorphonuclear cells, lymphocytes, etc.

SYMPOSIUM JOINT HOSPITAL COMMITTEE

HISTORY AND REASON FOR THE ORGANIZATION OF THE JOINT HOSPITAL COMMITTEE*

By J. Garland Sherrill, A. M., M. D., F. A. C. S., Louisville.

The entire profession of this city is vitally interested in anything which promotes better service in its hospitals, and results in the improvement of medical and surgical methods of treatment, both within and outside these institutions. The profession at large depends upon the hospital for such service as it provides for the care of patients needing hospitalization. The physician, is interested, therefore, in any steps toward a betterment of hospital facilities and hospital care. It is because of these facts, and with the hope of keeping the profession in closer touch with the hospital service, that this program is offered for your consideration.

Early in 1927, the thought came to me that much good could be derived to all concerned from closer contact between all the hospitals of the city. As a result of this idea, and after consultation with men from each hospital, a call was issued for a meeting at my office on May 5, 1927, with Drs. Aud, Frankel, Hendon, Ireland, Wathen and Sherrill present. Dr. G. A. Hendon was made chairman, Dr. Aud, vice-chairman, and Dr. S. C. Frankel, secretary.

The object of the Joint Hospital Committee was to afford closer co-operation between the staffs of the different hospitals, whereby various subjects of mutual interest to all hospitals could be discussed, and the problems of each hospital considered, with suggestions for mutual benefit.

Each hospital has two representatives on the joint committee, one to be chairman of the staff, and one selected by the staff. Three meetings a year were arranged, on the first Thursday of May, October and January, and other times when called by the chairman.

The following matters were thought worthy of consideration:

1. Standardization of hospital records for uniformity, so that a close study of results could be obtained.

2. A study of equipment with special reference to any new and valuable appliances which might be employed.

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*Read before the Jefferson County Medical Society, April 21, 1930.

3. Consideration of the subject of the privilege to practice in each of the hospitals.
4. The study of more adequate compensation for the hospital care of cases of industrial surgery.
5. The duties of the internes.
6. The obligation of the staff to the internes.
7. The obligation of the staff to the nurses and their training.
8. The obligation of the staff to the hospital.
9. The obligation of the hospital to the staff.
10. The obligation of the hospital, its staff, internes, and nurses to the patients.
11. The relationship and obligation of the public to the hospital.

12. The study of disease as seen from the clinical side—in fact clinical research based on established and recorded facts during the patient s stay in the hospital, and those obtained by a close follow-up system.

This liaison between the hospitals of this city in the short time which has elapsed since its inception, has in part at least, accomplished its purpose. Certainly a much better "esprit de corps" has developed. The gentlemen who follow me upon the program will tell you something of what has been done, what has failed of accomplishment, and what is planned for the future. If you will pardon a bit of egotism, I will admit that, personally, I am proud to have been one of the men who have made this work possible. While I realize that the results to date have not been large, yet the final outcome will enter materially into the future of medicine and medical teaching in Louisville, and it is hoped that it will bear fruit throughout the whole country.

Transfusion of Heterologous Blood—Kunz reviews the whole subject of the transfusion with the blood of animals and reports the results of his experiments, which showed that there are beeves and calves whose erythrocytes do not agglutinate those of human blood and are not hemolyzed, although the same blood may agglutinate and hemolyze the blood of other cattle. If cattle serum hemolyzes human blood, this property is overcome by diluting the former 1:10. The titer of calf serum is lower than that of beef serum. Rabbit serum neither agglutinates nor hemolyzes beef serum, but beef serum has such an effect on rabbit serum even in a 1:10 dilution. The use of citrated beef serum in rabbits usually caused no untoward effect. Therefore, the author is of the opinion that heterologous blood is suitable for transfusion into human beings after careful testing for agglutination and hemolysis.

WHAT HAS BEEN ACCOMPLISHED BY THE JOINT HOSPITAL COMMITTEE*

By S. C. Frankel, M. D., Louisville.

As the Joint Hospital Committee is composed of two representatives from each of the ten hospitals in the City of Louisville, you can readily see that at the round table conferences many subjects of mutual interest to all the hospitals can be discussed and advice and counsel given on things advantageous to all the hospitals and that closer co-operation between the staffs can be obtained.

It was decided that small committees were to be appointed by the chair to consider the various subjects brought up for investigation and that at each meeting some member of the Committee would be asked to talk on some subject of vital interest to the hospitals.

The Joint Hospital Committee meets three times per year and for that reason the subjects considered and discussed have been somewhat limited, yet we believe we have accomplished much and have been helpful on many things beneficial to all the hospitals.

Following are some of the subjects discussed:

1. Standardization of hospital records so there would be a uniformity of records.

The Committee, after much investigation, recommended that there be no change in the records of the different hospitals because of their similarity.

2. Committee looking to the equipment of hospitals with special reference to any new equipment which may have been installed.

The Committee appointed on this subject reported on the many new equipments recently installed in the hospitals with comment and recommendation on same.

3. Committee to work out plans as to whom should be given the privilege to practice in all the hospitals.

This being rather a delicate subject, the members present told the way this matter was handled at their respective hospitals and it was agreed that all the hospitals should comply as nearly as possible to the ideas and ideals advanced during the discussion. The Committee believed that the responsibility of the selection of those who should be given the privilege to practice in the hospitals should largely rest upon the management of the hospital itself and the staff should only act in an advisory capacity.

4. Committee to consider the handling on compensation cases with special thought given to the small fee allowed by the compensation board.

It was the sense of the meeting that the maximum fee allowed by the insurance companies was entirely too small and that it should be increased to at least five-hundred dollars and some action should be taken whereby a law could be passed raising the maximum fee to five-hundred dollars and that a committee be appointed to consult with the Committee from the Jefferson County Medical Society and also to represent the Joint Hospital Committee before the Compensation Commission at Frankfort. This Committee appeared before the Compensation Commission at Frankfort and was much encouraged with its reception.

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*Read before the Jefferson County Medical Society, April 21, 1929.

5. What are the duties of the intern and what should the staff do to make the internship more profitable to the intern.

The Committee reported it was their opinion that it was necessary that the staff be interested in the intern and that they believed the intern should be taught by the regular staff and shown cases whenever possible. The Committee also reported that in order for a hospital to be placed in Class A of the A. M. A. it was necessary that they have three interns,—one being the regular intern and two being student interns.

6. How could better co-operation be brought about between the nursing schools and the staff.

It was recommended that the members of the staff co-operate as much as possible with those charged with the instructions of the nurses in training and endeavor to instruct the student nurses in whatever way they possibly could.

7. Committee to have all the hospitals placed in Class A Classification of the A. M. A.

The Committee appointed to investigate this matter read from the March 30, 1929, A. M. A. Journal quoting standards required for admission. It was the sense of the meeting that all the hospitals did not meet the required standards of the A. M. A. and recommendation was made that the representatives take the matter up with their respective staff and endeavor to do what possibly could be done to bring their hospital to the A. M. A. standards.

8. Hospitals to have more books and magazines on their library shelves.

The Committee, after thorough investigation, was of the opinion that most of the hospitals had insufficient books and few magazines on their library shelves and that some had no libraries at all. The Committee went on record as recommending that all hospitals should look to the improvement and enlargement of their libraries so as to come as nearly as possible to the Standards recommended by the A. M. A.

9. Committee to investigate the laboratory fees charged by the different hospitals with the idea in view of recommending a uniform schedule of fees.

It was the sense of the meeting, after much discussion, that as near as possible, a uniform laboratory fee should be charged by all the hospitals but that no specific schedule of fees would be recommended.

10. Committee appointed to investigate the number of autopsies and methods of doing same.

It was the sense of the meeting that not enough autopsies were held at the various hospitals, and especially so since it was necessary, to be placed in Class A of the A.M.A., that at least fifteen per cent of all deaths during the year must be autopsied. All agreed that it was a difficult matter to obtain the required number of autopsies and that most hospitals did not come near the requirements. A representative of one of the hospitals said they were having considerable success in obtaining autopsies at his institution and explained in detail the method of procedure instituted. There was considerable discussion as to who was capable of holding autopsies and recommendations were made as to what requirements one should have to be capable of holding a scientific autopsy. It was recommended that the necropsies of the City Hospital be posted at all the hospitals for the benefit of the interns at the different hospitals.

11. The question of a similar type of program for the staff meetings at the various hospitals was discussed and it was the sense of the meeting that such a uniformity of program would not be practical and that each staff could better plan its own.

The following papers were read, enjoyed and thoroughly discussed since the organization of the Joint Hospital Committee:

Hospital Organization — Dr. John R. Wathen.

Report of the Committee of Hospital Standardization of the Kentucky State Medical Association—Dr. J. Garland Sherrill.

Detailed report of the work done at St. Joseph's Infirmary during the year 1928—Dr. Irvin Abell.

Synopsis of cases reported at the staff meetings of St. Anthony's Hospital in the last year and a half—Dr. G. A. Hendon.

The Hospital Laboratory—Dr. Chas. E. Gaupin.

The Importance of Follow-up Work to the Hospital and Staff—Dr. Guy Aud.

From the above you can readily see that considerable ground has been covered and much good has been accomplished at these round table discussions; that the different problems of the different institutions have been discussed and advice given by the representatives of other hospitals who may have solved such problems. And last but not least, closer and friendlier feeling has been brought about between the ten hospitals and that all had but one object in view: "To Improve and make the Institutions better and more up-to-date Hospitals."

WHAT IS HOPED TO BE ACCOMPLISHED BY THE JOINT HOSPITAL COMMITTEE IN THE FUTURE*

By William A. Jenkins, M. D., Louisville.

1. Standardization, Unification and Correlation of Rules and Regulations. Much is to be accomplished in the future by standardization, by urging all of our hospitals to adopt and maintain as rapidly as possible the standardized plan, approved by the American College of Surgeons and the American College of Physicians and adopted by the American Hospital Association. This naturally brings about unification and makes a more efficient organization. Under this plan all of our hospitals will be working together, all pulling in the same direction, the end result of which is progress and a much better grade of work by all of the hospitals concerned. Correlation of rules and regulations governing each hospital will give us a definite and universal plan to work by. It will be of great benefit to the individual hospital and the governing body of same and will also benefit the staff of the hospital and the doctors patronizing the institution.

2. Improvements Looking to the Raising of Standards and the Efficiency of Medical and Surgical Practice. A first-class hospital should be and is a representative and outstanding factor in the community in which it is located. It should afford the best obtainable medical and surgical service. Furthermore, it should furnish protection to all patients who are admitted to its halls. Its rules and supervision should be such that improper surgery and poor medical service would be impossible. Quacks, charlatans and irregulars should not be allowed to bring patients to the institution. Any reputable man should be allowed to bring patients to a hospital. Staff-membership should never be a question of political pull or church affiliations. It would be a good plan to require each newcomer into the community and each newly graduated man to qualify and establish himself in the community by a three-year period of residence before he could become eligible to staff-membership in a first-class hospital. In the case of a well-known surgeon or physician moving into the locality, especially if he had a good record behind him, this rule could be suspended at the discretion of the Board of Managers and the staff of the hospital in question. Staff membership on a representative hospital should mean something and it should in a measure be a guarantee of the integrity, capacity and character of the man occupying such a position.

3. The Record System. (a) Every first-class hospital should maintain and require a complete and exact record in all hospital cases, with summary and record of all medical, surgical and laboratory procedures instituted in each case. A permanent record filing room, with clerk in charge, where record material may be available at all times for study, statistical or research in nature. (b) The adoption of the follow-up system for an indefinite period of time after the patient leaves the hospital, where such is desired. This may be done by the hospital authorities, by the doctor in charge of the case, or by both of the above.

4. The Library. All good hospitals should have a fairly representative library. For purposes of reference a properly equipped library would be of great assistance to the staff, the internes, the nurses, the hospital authorities and the visiting doctors.

5. Pathology. The department of pathology, which includes the laboratories, should be strengthened in all of our hospitals. This department should include a room for holding autopsies and a room for storing interesting pathological specimens, — a pathological museum, if you wish to call it such. With such an equipment one could study the clinical side of the case along with the laboratory work and pathological findings, post-operative or post mortem. By this means one could reason from physiological perturbations or symptoms to the underlying pathology, or the reverse.

6. The Establishment of Clinical Research Work. The idea of the utilization of hospital material as a basis for scientific clinical research work was pointed out and suggested for the first time by the Joint Hospital Committee. The complete record system with its follow-up plan and the correlation beween the clinical and the pathological departments and the recorded information accruing from same will in the course of a few years furnish unlimited possibilities for clinical research work, e. g., such topics as malignancy, post-operative infections, cardiac conditions, or any special symptom or group of symptoms could be studied and correlated over a considerable period of time. Valuable conclu-

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*Read before the Jefferson County Medical Society, April 21, 1930.

sions could be drawn therefrom. This work could be published and copies of same filed in the hospital library, and also copies could be sent to doctors all over Kentucky and adjoining states who patronize the various hospitals. This plan would in a way serve to keep the interest and insure the cooperation of doctors who send patients to the hospitals from a distance.

The above are only some of the possibilities of the clinical research study plan. Other avenues of study will present themselves as time goes on. The above measures and suggestions while in a certain sense are in the future, yet they are not impractical visionary dreams at all. On the other hand, they are entirely possible and practical and will most certainly prove to be of great value to those physicians who are just starting out on their professional careers.

The Joint Hospital Committee earnestly urges the adoption of the above measures and requests the support and cooperation of every doctor of medicine in carrying out these plans.

Treatment of Hemophilia.—The fact that a woman transmits hemophilia without herself being subject to it convinced Nichans that the female organism contains an antidotal substance against this condition. He reasoned that the implantation of an ovary into a hemophilic person would, perhaps, influence the coagulation of the blood. He implanted the ovary of a calf, without a corpus luteum, into the oblique abdominal muscles of a hemophilic patient, aged 25. After six and one-half months the ovary was no longer palpable and the coagulation time had been reduced from five hours to two and one-half hours. The author likewise performed an implantation on the brother of the patient, aged 10. In this instance the ovary of a sheep with a corpus luteum was used. After six and one-half months the implant was still palpable and the coagulation time was not changed. The fact that the implantation of the ovary without a corpus luteum reduced the coagulation period, whereas by the implantation of the ovary with a corpus luteum the coagulation time was not influenced, indicates that the hormone that accelerates coagulation is secreted by the ovary only at certain times. Later the author implanted into the same patients pieces of two ovaries removed from a woman immediately after menstruation. Into the one a piece of tissue from the ovary without a corpus luteum was inserted, whereas into the other patient a piece of tissue from the ovary with a corpus luteum was implanted. The results were similar to those in the first experiment. The implant from the ovary without a corpus luteum reduced the coagulation time to one and one-half hours, whereas in the other patient the coagulation time was unchanged.

INFLUENZAL PNEUMONIA TREATED WITH CONVALESCENT SERUM*

By Morris Flexner, M. D., Louisville.

The following case is recorded because of the unusual effect obtained with convalescent serum in a patient critically ill with influenzal pneumonia.

While it is appreciated that a single case is of little value in determining the therapy of a disease which is as fickle as this type of pneumonia, there can be little doubt that definite therapeutic benefit was obtained from the method employed.

One of the main points of interest in this particular case is the extremely unfavorable family history regarding influenza. During the war a brother of the patient was critically ill, having first influenza then pneumonia followed by empyema. Convalescent serum was used in his case and it was thought to have been of great benefit.

One month before the patient became ill, her sister contracted influenza, promptly developed pneumonia and died within a few days, according to the report.

This patient was first seen December 29th, 1928, with the usual symptoms of acute influenza. She had sore throat, burning eyeballs, congestion of the head. She was placed in bed and given alkalines and antipyretics, and in forty-eight hours was immensely improved, although there was still slight fever. At this point she decided it would be the proper time to wash her hair, which she did. The temperature rose that afternoon, and the next day she had high fever, chills, and all other symptoms of a relighting of influenza. She became cyanotic, the rate of respirations increased, severe bronchitis developed, which was promptly followed by bronchial pneumonia. This spread rapidly and within three days had become confluent, involving the entire left lower lobe.

When admitted to hospital her temperature ranged from 102° to 103° F., pulse 100, respirations between 25 to 30. The patient was moderately cyanosed, extremely ill. Pleurisy developed in her left side, which was most disturbing.

After five days in the hospital, with the condition remaining essentially the same and the patient appearing extremely ill, it was decided to try convalescent serum. For this purpose blood was taken from two recently cured cases at the Louisville City Hospital with the permission of Dr. John Walker Moore. Individuals were chosen who had had a high febrile reaction, and the disease had run a normal course of three to six days.

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*Read before the Louisville Medico-Chirurgical Society, May 9, 1930.

Thirty c. c. of this serum was injected in the afternoon of the seventh day in the hospital and repeated the next afternoon. Following the first injection the temperature rose to 103° F., with little effect on either the pulse or respirations. After the second injection there was a steady decline in the fever until the afternoon of the ninth day when it reached normal and practically remained there throughout convalescence, which was uneventful.

This method of termination in this type of pneumonia is unusual; it generally occurs by lysis prolonged over quite a few days.

I am reporting this case because I believe that convalescent serum is an important arrow to have in our quiver in dealing with as treacherous a disease as this, with such a high mortality in severe epidemics.

From the laboratory standpoint there is little of interest. The patient showed a moderate leukocytosis after pneumonia developed, reaching as high as 16,500. The urine was practically negative.

THE PRESENT TREATMENT OF TUBERCULOUS JOINT DISEASE*

By William Barnett Owen, M. D., F. A. C. S., Louisville.

The title of this paper, "The Present Treatment of Tuberculous Joint Disease," was chosen for the reason that, on visits to some of the large clinics during recent years, it was surprising to note the different methods employed in handling these cases. However, in practically all clinics, at the present time, tuberculous joints are treated by artificial fusion. Some orthopedic surgeons, especially Dr. Russell A. Hibbs, of New York, fuse nearly all tuberculous joints early. Biopsy is performed in every case, and the presence of tubercle bacilli proved by guinea-pig inoculation prior to operative treatment. We know that tuberculous joint disease is more or less controlable, provided fixation can be maintained for a sufficient length of time.

Fusion is indicated in all adult cases and in properly selected cases in children. The best results are secured when the operation is performed early in the course of the disease, that is when a minimum amount of bone destruction has occurred. It must be remembered, however, that fusion is only an adjunct in the treatment of joint tuberculosis.

In fusion of the spine there is no danger of further disseminating the disease, because we do not come in contact with infected tissues. The disease involves the body of the vertebra, and fusion is produced on the posterior surface of the spine. Among the advantages of artificial fusion may be mentioned:

(1) The saving of much time and expense of prolonged hospitalization. Fusion of the spine, for example, requires only about a year, as compared with five, six or more years under conservative treatment in the recumbent position.

(2) The prevention of excessive bone destruction.

(3) The reduction of deformity.

(4) The reduction of complications.

(5) The early arrest of the disease.

(6) Acute exacerbations are much less frequent following fusion than when patients are treated by recumbency without fusion.

(7) The period of after-treatment is greatly lessened by the fusion operation.

Even though the spine is fused, the patient must undergo the usual general treatment. Recumbency is necessary for at least six months, and the application of adequate support in the form of a plaster jacket or brace for one or two years or perhaps longer, depending on the nature of the case. Rest and systemic treatment are just as essential as if fusion had not been done.

Fusion operations on the spine were first performed by Lange, when he conceived and executed the idea of wiring the spinous processes together. This procedure has practically been abandoned. The operation of choice at present is either that of Albee or that of Hibbs. The latter is the one more universally employed, following his technique or modified by supplementing his method by the application of an osteo-periosteal graft from the tibia or rib.

In tuberculosis of the knee joint, the most satisfactory method of treatment is resection with fixation in such position as to give the patient the greatest amount of function. In these cases we are almost warranted in promising the individual a cure of the disease so far as the joint is concerned. Conditions are not quite so favorable in the spine and hip joint, but more tuberculous spines and hips, even in children, are being fused now than formerly.

The results of fusion are more satisfactory in adults than in children, but in older children tuberculous joints are fused to save time, to reduce deformity, to arrest progress of the disease, and to prevent complications. One of the most serious complications that may arise is paraplegia.

It may be interesting to state that I saw a few days ago, with Dr. P. F. Barbour at St. Joseph's Infirmary, the youngest patient with Pott's disease and paraplegia that has ever come under my observation, viz., a child seven months old. There was almost destruction of the tenth dorsal vertebra and complete paraplegia. The first symptoms were noted ten weeks previously, when the child began having pain and cried constantly at night. There was no fever and the blood count was normal. This shows how rapidly tuberculous infection of bone may progress in certain individuals.

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*Read before the Jefferson County Medical Society, November 18, 1929, with numerous lantern slides.

COMMENT

The tubercle bacillus may attack, primarily or secondarily, any organ, structure or tissue of the human body. The pulmonary and lymphatic tissues seem to be sites of predilection. The bones and joints are affected in quite a large proportion of cases.

There has been considerable debate whether tuberculous joint disease is invariably metastatic or hematogenous in origin, i. e., secondary to a primary focus elsewhere, or whether the osseous tissue may not oftentimes be the primary site of infection. Cases have been reported in which no evidence of tuberculosis elsewhere than in the affected joint could be discovered by the most painstaking clinical and laboratory investigations. On the other hand, Hibbs and Risser state: "The fact is constantly borne in mind in the treatment of these cases that tuberculosis of the spine is simply a local manifestation of a general disease, and everything possible is done to improve the general condition of the patients and to increase their resistance."

Tuberculous joint disease may be either acute or chronic, usually the latter. It occurs more frequently in children than adults, the greatest incidence being among those between one and ten years of age, and males are affected oftener than females, for which no adequate reason has been assigned. In 286 cases of vertebral tuberculosis recorded by Hibbs and Risser, there were 159 males and 127 females; 174 patients were less than five years old; 235 were under 16, and of these the majority were under 6 years; 34 between 16 and 30; and 17 between 30 and 50 years.

In the majority of instances tuberculous joint disease develops in children of the poorer classes who live in unfavorable hygienic surroundings. It is noteworthy that the poor, underfed and under-nourished have limited powers of resistance which probably explains the greater number of infections among that class. Children of affluent and well-to-do parents are less often afflicted.

Tuberculous disease usually develops in a single joint, but two or more joints may be simultaneously or successively attacked. The larger joints are the most frequent sites, viz., elbow, shoulder, spine, knee, ankle. In tuberculous disease of the spine, one or more vertebrae may be involved. In some cases multiple foci have been found in different parts of the spine. The vertebral segments attacked, in order of frequency, are: (1) dorsal, (2) dorsolumbar and lumbar, (3) cervical and cervicodorsal, (4) lumbosacral. In Hibbs and Risser's series there were 149 dorsal and 116 dorsolumbar and lumbar implications.

In adults and in certain regions, especially the lower and more rarely the upper extremities, trauma seems to have an important predisposing influence in development of the disease. For example, Campbell recently reported three cases of tuberculosis of the ankle in adults in which the patients gave a clear history of previous injury.

Cleveland and Pyle a short time ago presented an interesting study of 60 cases of joint tuberculosis with especial reference to the social and economic aspects. Many of the patients had spent years in hospitals and sanatoria under conservative management without definite improvement. In the adults with joint tuberculosis the lesions had frequently developed as part of a general tuberculosis with the lungs as the principal focus. In children the lymph glands were most frequently the primary focus. In about 95 per cent the lower extremities were involved. The fusion operation was performed in all cases.

The prognosis in tuberculous joint disease, treated by the osseous fusion method, is favorable. Of the 286 patients with tuberculosis of the spine mentioned by Hibbs and Risser, 191 (74.6 per cent) were cured. The operative mortality was nine-tenths of one per cent (three patients, all poor risks). The authors add: "For the entire number of 534 operations performed from 1911 to 1920 it (operative mortality) is [illegible] five-tenths of one per cent."

In the series of 60 cases reported by Cleveland and Pyle, excellent results were secured in 32 patients, or 53.3 per cent, while 17, or 28.3 per cent, failed to respond to surgical treatment, "11, or 18.3 per cent of the total are still under treatment." The authors conclude their paper with the following summary:

(1) Operative fusion in joint tuberculosis offers the quickest and most effective means of restoring the patient to his normal life.

(2) Patients with advanced pulmonary tuberculosis or with multiple foci of infection have not responded as favorably to surgery.

(3) The cost of treating joint tuberculosis by other methods than surgery in this series of cases is so appalling that those entrusted with funds for this purpose might with pro-

fit survey the figures presented and study their own costs.

(4) We would emphasize what can be accomplished in the way of rehabilitation of this neglected class of patients by once more calling attention to the 22 patients who have been restored to normal life by means of operative treatment.

(5) The removal of patients from their home surroundings for long periods of years to carry out conservative treatment of joint tuberculosis is an unwarranted hardship which the results in this series of patients have not justified. Particularly do we deplore the institutionalizing of young children.

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DISCUSSION

Orville Miller: There has been considerable progress made in the treatment of tuberculous arthritis. I think we have made less progress in the last ten years than we had previously. In this part of the country the Hibbs operation seems to be more frequently used, although the Albee is also very popular. The Albee and the Hibbs are the ones most frequently used. The advantage of the Albee operation on the spine over the Hibbs procedure is that it can be completed much quicker. It is far less tedious because there is not so much dissection necessary and the results from the two operations are equally good. The Hibbs operation has the advantage that a rotary saw is not necessary and the danger of contaminating the hands while handling the saw is obviated.

I have been especially interested in comparing the work here with that being done in foreign countries. In Great Britian the work done by Wheeler, Girdlestone and Sir Robert Jones, resembles what is being accomplished here so far as the operations themselves are concerned. They are not generally known, however, by the name of the Albee and Hibbs, but the method and technique is almost identical. One surgeon in Edinborough prefers laying two grafts from the tibia alongside the posterior spinus processes instead of splitting them.

Foreign surgeons are more radical, as a general rule, than we are in this country. Delrez and Christophe in France, are of the opinion, and urge the necessity for the Albee operation in young children. Contrary to this belief are Whitman and others in this country. Foreign men are more radical generally speaking, too, in the treatment of tuberculosis of the hip. Girdlestone recommends complete drainage in severe cases where "sinuses persist showing signs of bottling" of the pus "and hectic fever demands ruthless drainage." "In these cases where ankylosis is taking place, I made two transverse incisions, cutting out wedges of abductors on the outer side and adductors on the inner side, thus making two broad troughs down to the head of the femur. I suture the skin down as near to the bone as I can to shield the raw nerve endings and check granulation, which otherwise narrows and blocks the broad channel." After the pus has cleared up largely, a plastic operation is performed, which covers over the exposed remains of the hip joint. This is according to the publication found in the Robert Jones Birthday Volume, edited by Sir Robert Jones and just off the Oxford Medical Publications Press.

I have also been greatly interested in the work of Sir Robert Jones, who advocates pseudarthrosis in the treatment of healed tuberculosis of the hip joint. Usually in this country a Gant's Osteotomy is done for relief of deformity. Sir Robert Jones divides the femur immediately below the greater trochanter, chips off the trochanter and turns it under and attaches it to the neck of the femur where the neck and shaft were divided, so that the periosteal side of the trochanter is turned downward to articulate with the open shaft of the femur, thus producing pseudarthrosis.

I have had the privilege of working with Sir Robert Jones for six months but have not seen him do this operation. However, any operative work is only an incident in the treatment of bone tuberculosis and the patient is not well when the joint has become fixed. He still has tuberculosis but is able to go about his duties and is able to handle himself with less inconvenience than before. He must have general systemic treatment to raise his resistance to the point where he may overcome the infection. It requires approximately five years for a patient to be considered cured, since it requires about that time for the patient to surround the area infected with lime salts which imprisons the germs.

I have greatly enjoyed Dr. Owen's paper and he is to be congratulated on this presentation.

Harry Goldberg: Dr. Owen should be commended for bringing such a timely subject before the society. Having recently returned from my association with Dr. Steindler's Clinic, at the University of Iowa, I can safely say it has been the rule there to consider the operative fusion of tubercular joints in adults especially.

It is known that the best one can hope in a tubercular joint is an ankylosis. The vast majority when left to nature result in a fibrous ankylosis, which is least safe from recurrences, even after the condition has been quiescent for some time. The time element is as a rule much longer in the non-operative cases, to produce an arrest of the tubercular process. In regard to the spine, the deformity should be corrected first, otherwise the spine will have a propensity to break down, and according to Wolff's Law, it will result in tension stresses, that will cause the fusion to be absorbed at the point of greatest tension.

As to the hip, it has been the rule to consider the extra-articular fusion especially in cases with acetabular involvement, since there is marked tendency for the formation of intrapelvic abscesses, which are uncontrollable. Another point that I wish to call attention, is in the treatment of the tubercular process of the joint, one should not overlook the general condition of the patient. As long as there is pain, temperature, abscess, muscle spasm, and a poor general condition, the patient will require recumbent treatment as much as the non-operative cases. One should also bear in mind that there is also present the possibility of complications, as abscess and paralysis, occuring in the operative cases of tubercular spines as in the non-operative cases.

Oscar O. Miller: I am sure Dr. Owen uses heliotherapy in the majority of his cases as that is the ideal method of treatment in surgical tuberculosis. In this section of the country between September and April there is not very much ultra-violet in the sunshine, and in the treatment of these cases we have to resort to artificial heliotherapy. There is some discussion as to the relative value of the mercury lamp and the ordinary carbon arc light. There are probably uses for both. The mercury lamp seems to be of special value in tuberculosis of the intestinal tract. In the bones, joints and glands there may be some value in the carbon arc light. I find in some places they are using the ordinary street arc lights with the globes removed, the patients being treated sitting around these lights. In my opinion there is a rather low output of ultra-violet radiation by this method. In this locality it is difficult to keep the patients out doors in the treatment of tuberculosis, as many of them contract pleurisy. At Waverly Hill we have had some experience with vita glass. When this was developed in England we imported some of the glass and have built several solaria. We have one built on the roof with this glass. Unfortunately this glass undergoes solarization after being exposed to sunlight and this reduces the amount of ultra-violet transmitted. When first used this glass gives about 50 per cent ultra-violet radiation, after solarization this is reduced to 25 per cent, and it is a question whether 25 per cent ultra-violet radiation is sufficient to bring about results. We find this, however, after the patient has taken heliotherapy by direct sunlight during the summer months and is then exposed to sunlight through this special glass, the improvement seems to be maintained. I believe this is an important adjunct in the treatment of any type of tuberculosis.

W. Barnett Owen, (in closing): I was particularly interested in the joint meeting of the American Orthopedic Association and the British Orthopedic Association held in London the past summer. We had one paper by an American, and the next by an English surgeon.

We visited Alton, about fifty miles from London, where a 300 bed hospital for surgical tuberculosis and lupus is maintained and operated by the British government. All their patients looked well. They are treated by rest and sunshine, that is all.

We also spent some time at Rollier's place in Switzerland. He has 1000 beds for surgical tuberculosis only. His treatment is sunshine and rest. He has a beautiful place and is a wonderful man. His patients looked exceedingly well. Patients are sent to him from all over the world; a number of them are from the United States. All the children were deeply tanned from exposure to sunlight. When about ready to leave I asked him why, as we had the same sun in America as they have in Switzerland, our patients did not seem to do so well as his. He said he did not know why. I also asked him if he had any statistics on patients who had been treated a number of years ago and had been sent home, what happened to them afterward, etc. That was one of the most interesting features to me. We can put these patients to bed and they are apparently free from pain, not free of the disease, they look well and gain weight, but when these patients go home and begin to walk about they have a recurrence. Strange to say he had no definite statistics but is going to prepare the data covering a period of many years. Personally I believe that these patients remain pain-free and improve while they are there, but when sent home to resume their usual mode of life many have recurrences. The point in which we are all most interested is cure of the disease, or early arrest of the disease, with the least amount of danger to the patient and in the shortest period of time. If we can do this by getting these patients early, we have accomplished something in a permanent way.

I am impressed with the fact that cases of tuberculous joint disease should be carefully selected and operation should be performed as early and as thoroughly as possible, particularly when the disease involves the hips, knees and spine. Young children do not seem to do so well after operation because fusion of the spine is more difficult. However, even in young subjects, when an osteoperiosteal graft from tibia or rib is used, we not only get osseous fusion but prevent deformity and complications, and apparently these children recover very much earlier.

THE MODERN METHODS IN THE TREATMENT OF PULMONARY TUBERCULOSIS*

By Oscar O. Miller, M. D., Medical Director
Waverly Hill Sanatorium, Louisville.

The decline in the mortality rate from pulmonary tuberculosis is either indicative of an increasing resistance on the part of the people, or a lessening in virulence of the organism, or a combination of both of these factors. The fact that we see from time to time fulminating types of tuberculosis is indicative that the tubercle bacilli or certain strains of it, retains its time honored virulence and is still capable of producing acute and progressive disease.

All methods of treatment in tuberculosis are based upon the extent and character of the lesion, the presence of symptoms—of toxemia and of tuberculosis complications. There are certain types of lesion in individuals with good resistance that will get well any where and with any mode of treatment. There are certain other types in which recovery is not to be expected, irrespective of any and all treatment, and there is another group whose lesion demands sanatorium regimen, and in whom recovery can only be brought about by the utilization of every available method of treatment.

In discussing the principles of treatment only those methods employed by the writer and coming under his personal observation are included for consideration; all of these are accepted forms of treatment and are applicable to the average case of tuberculosis.

These methods comprise routine bed rest, postural rest, shot bags, and sling, chest splints or special corsets; compression therapy as represented by phrenicectomy, artificial pneumothorax and thoracoplasty. For the usual complications associated with tuberculosis, special treatments are in vogue; such as heliotherapy, electro-cautery and ultra violet radiation.

When one realizes that only 15% of all patients admitted to the sanatorium are minimal cases, and hence are the only ones in whom recovery can be expected with routine rest, it is patent that the other 85% who are represented in the moderate and far advanced group will require, in the majority, some form of special treatment to bring about an amelioration of symptoms or an arrest of the pulmonary lesion. Fifty point five per cent of our patients are far advanced, and for these surgical intervention wherever feasible, is a necessary form of treatment. We may dismiss the 15% minimal cases, by stating that routine rest and a full nutritious diet may be all that is necessary for their recovery. Usually these patients are kept in bed until they they have had three months normal temperature. At the end of that time, they are permitted to sit up one hour per day, increasing one hour per day until they are up all day. If there is no reaction following this, they are sent to the main dining room for meals, and then placed on ten minutes walking exercise, increasing five minutes a day until they are walking one hour a day without reaction. They are later placed in the Department of Occupational Therapy, where they work four hours a day and if there is no reactivation and if the lesion is apparently arrested, they are discharged and recommended to return to their previous occupation, provided it is non-hazardous, either to them or the public.

In the balance of the patients, the following forms of treatment are applied:

Postural rest in unilateral disease is a valuable adjunct in the treatment of tuberculosis. In these cases, the patient is encouraged to lie on the affected side, preferably with a firm pillow placed under the lower ribs. This restricts the excursion of the chest, putting the lung at partial rest and thus promoting recovery. Where there are cavities it will be necessary for the patient to change the position to drain these. Such postural rest may be required anywhere for from one year or longer.

In bilateral apical disease, with or without cavitation, the shot bag method of postural rest, devised by Webb is employed and is carried out by placing one pound of shot in a four inch bag over the infraclavicular region with the patient lying on the back,—the shot is gradually increased four ounces every week until they reach three to five pounds or that amount of shot which can be borne with comfort. Some patients show a remarkable tolerance and carry as high as 8 to 10 lbs. of shot over one lung. This restricts respiratory excursion over the upper lobes and confines the movement to the lower part of the chest, thus aiding the patient in diaphragmatic breathing. Should the patient endeavor to carry more shot than is comfortable, discomfort may occur and a localized pleurisy develop in the first and second interspaces, due to pressure. The bags are worn for as long a time as is comfortable for the patient, this depends entirely upon the individual, some being able to wear them 8 to 10 hours out of the 24.

The hammock or sling method, introduced by S. C. Davis, of Arizona is applicable to unilateral cases and in this procedure, the patient is suspended in a canvas sling 10 to 15 inches wide from a ridge pole over his bed, the whole weight of his body resting in the sling, with his shoulders and hips touching the bed lightly. This compresses the lung laterally and antero-posteriorly and brings about a remarkable clearing in selected cases. The patient lies in the hammock one hour a day and gradually increases the length of time. They soon become accustomed to this position and many of them remain in the sling ten to thirteen hours during the day. It is manifest that the exudative and infiltrative types, with considerable inflammatory reaction are most adaptable to these forms of treatment and the fibroid types less amenable to any form of treatment.

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*Read with exhibition of numerous lantern slides before the Jefferson County Medical Society, February 17, 1930.

Whenever cavitation develops some form of compression therapy is mandatory. If it is a thin-walled cavity, having the appearance of an annular ring, we may keep such a lesion under strict scrutiny by frequent x-ray observation. Some of these tend to clear with postural rest. Failing this, however, artificial pneumothorax should be induced.

Artificial pneumothorax is one of the outstanding contributions to the treatment of pulmonary tuberculosis. The initial results are often spectacular and brilliant, the end results too frequently disappointing; in no way the fault of the operation, but in the main due to poor selection; a selection not based on the desire for good statistics, but forced upon the operator, in the hope of controlling the disease, relieving symptoms, and of prolonging life; and pneumothorax does just these. As already intimated, pneumothorax is indicated in moderate or extensive unilateral disease that fails to undergo retrogression with routine treatment. Ordinarily the contralateral lung should be relatively clear; although slight non-progressive disease may be present providing it does not extend below the second or third rib. A free pleural cavity is a requisite for, successful pneumothorax, although a good working collapse can often be secured in the presence of moderate adhesions. Persistent pulmonary hemorrhage is an indication for pneumothorax.

All cavities, especially those that give physical signs of their presence, require artifical pneumothorax or phrenicectomy or both. If pneumothorax does not bring about closure of cavities, thoracoplasty is indicated; if the contralateral lung is sufficiently clear, the requirements in this respect are exacting.

Phrenicectomy or avulsion of the phrenic nerve is a valuable adjuvant in the treatment of certain cases of pulmonary tuberculosis. It is ideally suited to unilateral disease with thin-walled cavities occurring in the second and third interspaces; and is particularly recommended in basal lesions. Following removal of the phrenic nerve and its accessories which are present in ninety per cent of the cases, there follows paralysis of the diaphragm on the operated side, with a consequent elevation of the dome into the chest of varying degrees. In some cases the diaphragm reaches to the third rib anteriorly. The reduction in lung volume is variously estimated as one-fourth to one-fifth; while this reduction in lung volume is essential to the closure of cavities, it is not the only factor in bringing about improvement. Fixation of the diaphragm, with resultant rest for the lung, contributes much to the amelioration of symptoms, and clearing and absorption of the inflammatory and infiltrative processes in the lung.

The results obtained with avulsion vary with the selection of cases. In our first series of one hundred patients forty per cent showed definite improvement, and eight had closure of cavities and a disappearance of the tubercle bacilli from their sputum. In the last fifty phrenicectomies, the results have been uniformly better, due to division of all accessory phrenic nerves. If a patient is a candidate for pneumothorax, he is also a candidate for phrenicectomy in the majority of cases, and the phrenicectomy should come first. Where the cavities are thin-walled and situated in the infraclavicular region, phrenic avulsion will frequently bring about complete closure and render contemplated pneumothorax unnecessary.

Thoracoplasty has won a well deserved reputation in the treatment of tuberculosis, and when all other methods have failed, this is the final arbiter. It is suitable in chronic unilateral tuberculosis with cavity. It is imperative that the contralateral lung be free from active disease and that even arrested lesions should be of limited extent. The patients must be free from tuberculous complications.

In no other phase of surgery is there a greater need for the closest co-operation of physician and surgeon. The operation must be carefully planned in advance, in accordance with the extent of the disease and the patient's resistance. Wilms Columnar resection done in two stages has lessened the operative mortality rate and improved the results. It is imperative that the ribs be resected well beyond the angle and as close to the head as possible, the amount of rib to be removed depends on the extent of collapse required. When large apical cavities are present, very extensive resection is necessary, and hence fewer ribs can be resected at a session. Left-sided cases can probably tolerate more resection than right-sided ones, owing to the thicker heart muscles on the left. All thoracoplasties should be preceded by a preliminary phrenicectomy when the diaphragm is mobile. Where the paralysed diaphragm rises high in the chest, frequently a one stage operation may be done by resecting om the first rib to the dome of the diaphragm; usually the first seven ribs. If further resection is necessary, a two stage operation is indicated. Where the diaphragm is fixed with adhesions, the phrenicectomy may be done at the time of the thoracoplasty. The responsibility rests with the physician to recognize when recovery or arrest of the disease is not possible by the simpler methods of treatment and to recommend thoracoplasty, while the patient is in good nutrition and is a suitable risk for operation. Too often the patient is permitted to become thoroughly depleted and thoracoplasty accepted as a *dernier ressort.* On the part of surgery, speed is a factor, and good team work will make it possible to present a moderate number of the less favorable cases for operation, where this obtains.

Following operation, it is necessary for the patients to lie on the operated side to favor compression of the lung. After return to the sanatorium they should be placed in a sling or wear a suitable thoracoplasty corset.

In discussing the modern methods of treatment in tuberculosis it is incumbent that mention be made of those complications common to the disease and for which special methods of treatment have been evolved. Tuberculous laryngitis occurs in at least twenty-five per cent of the patients. For simple inflammatory lesions with but slight redness of the cord, or slight infiltration in the interarytenoid space, silence and relief from coughing will often effect a cure. For those with more involvement, heliotherapy with a solar larynoscope quickly brings relief from pain and in time healing in the larynx. Where there is marked infiltration and swelling in the larynx, arytenoids, epiglottis, or ventricular bands, cauterization with the electrocautery gives excellent results. This is especially adaptable to those patients who, because of weakness or severe symptoms of toxemia, are unable to go through the exertion incident to heliotherapy of the larynx. We have used the water cooled mercury arc lamp for local application to the larynx with negligible results. Some few patients have claimed relief. We use it routinely on cloudy days for those patients who ordinarily take sunlight. In the absence of adequate controls it is not feasible to compare results.

Tuberculous colitis occurs in thirty-five per cent of our patients; and is one of the chief factors in delaying recovery in otherwise favorable cases. Heliotherapy is of inestimable value in the treatment of this complication. It is thought that ultra-violet rays are the chief curative agents in this lesion, and while direct proof is lacking, we do know that cure takes place when we resort to such exposures. One cannot discount the air baths and other rays reaching the body during treatment. For obvious reasons it is more convenient to use artificial light for radiation in this climate during the winter months, and for this purpose the mercury quartz lamp is the best. A multiplicity of techniques have sprung up in the application of artificial light; all founded on fancy and few on facts. It is quite possible that any reasonable technique will give satisfactory results in favorable cases. The treatment must be continued one to two years to ensure recovery. For simplicity, we prefer full-body exposures at a distance of thirty to thirty-six inches, expose one minute front and back, and increase one minute daily till twenty minutes front and twenty minutes back is reached. The treatment may then be divided into four body areas, two front and two back and the lamp lowered one inch daily until tolerance is reached, usually ten to fifteen inches, and the lamp held at this point. The market is being flooded at the present moment with so-called health lamps; what is needed in the treatment of tuberculosis enteritis is therapeutic lamps that will give known results. The progress of the patient can be checked by the improvement in the general condition and from x-ray observation of the intestine with the barium meal. Why some patients develop tuberculous colitis and others with extensive disease escape is not known. It is possible that a deficient diet, and lack of suitable vitamins may lay the ground work for this complication. This theory gains support from the fact that patients with tuberculous enteritis improve when vitamins are included in the dietary. For this reason we have made it a practice to use cod liver oil half an ounce and tomato juice two ounces after meals in most of our cases. Cod liver oil becomes a food as well as a vitamin containing product. Vrosterol is useless for this purpose and has no influence on the intestinal tuberculosis.

In conclusion, one must bear in mind the Hippocratic aphorism. "Experience is fallacious and judgment difficult."

This is especially applicable to tuberculosis. The individual must be warned that once tuberculous, always tuberculous. He gets well of his symptoms, he must henceforth learn to live with his tuberculosis. If he has that rarest of senses,—common sense,—he may live out his normal expectancy; supporting himself and family; ever remembering,—that rest is both his sheet anchor and harbour. "A well man rests when he is tired, the tuberculous individual rests to keep from getting tired."

DISCUSSION

Paul A. Turner: I personally want to thank Dr. Miller for presenting such a splendid monograph on the modern treatment of pulmonary tuberculosis. I listened with great interest to see what he was going to omit and I find he has omitted nothing.

Those of you who are not familiar with the treatment of tuberculosis have probably had some difficulty in assimilating everything he said, because there was so much that could not be followed unless you are thoroughly familiar with the subject. I am sure his paper will be published, and for ready reference on the treatment of tuberculosis you will find nothing better than his monograph. His slides have shown what can be done with all sorts of tuberculous cases. There is really nothing to discuss, he has said everything, but I would like to comment on two phases of his paper. Perhaps the most interesting is pneumothorax treatment. He has not had time to consider the various phases of the subject, except to suggest the placing of air around the lung so it will collapse like a sponge. He did say that the results were rapid, almost miraculous. When patients come to the sanatorium they are often very ill, a considerable proportion of them have fever of 101 to 103° F., and after an interval of time pneumothorax is used. I do not know how long Dr. Miller follows his cases before resorting to this procedure, but the usual time is four months observation. Personally I think that is perhaps too long in some cases and under certain circumstances, so I have often induced pneumothorax before waiting that length of time. We have had some beautiful results, and, of course, some failures. In only about two out of every one hundred tuberculosis cases is this treatment thoroughly successful.

It is only fair to say that we have seen some complications. The most frequent one Dr. Miller hardly mentioned, and that is pleurisy with effusion on the collapsed side. This often makes the patient very ill, in fact usually does, the temperature rises, and for three or four weeks there is a picture of acute illness. However, in practically all cases like this there is no occasion for alarm, because if treated properly the patients remain in good condition, and within three or four weeks the temperature recedes and they get along very nicely with fluid in the chest. Occasionally it is necessary to remove the fluid three or four times, but at other times it will be absorbed without any interference. That is what we hope for. When fluid in the chest increases very rapidly, perhaps it is better to remove it.

There is one other phase of Dr. Miller's paper that I would like to discuss, and that is tuberculous enteritis. This is a frequent complication of pulmonary tuberculosis. Early diagnosis is most important and may be made by x-ray. While ultra-violet ray treatment gives very satisfactory results, I wish to stress the value of treatment with tomato juice and cod liver oil as described by Dr. Miller. Experiments during the past two years prove that both of these modes of treatment are of about equal value.

William J. Young: I would like to ask Dr. Miller what has been his experience regarding the relative value of the therapeutic application of carbon arc light and the mercury lamp. I believe it has been accepted that the carbon light more nearly approaches the application of sunlight than the mercury quartz lamp.

L. Wallace Frank: I have enjoyed Dr. Miller's paper very much. It has been most interesting and instructive and he has presented the newest thought in the treatment of pulmonary tuberculosis.

I was especially interested in the surgical treatment of these cases. In August, 1926, I performed my first phrenicectomy for pulmonary tuberculosis. This patient had been in the sanatorium for more than four years with some improvement at first but for some time his condition had been stationary. Following the operation he began to improve and we later did a multiple stage thoracoplasty. This man has been working for the past six months and is self-supporting.

Immediately we became greatly interested in the surgical treatment of pulmonary tuberculosis. We have treated by phrenic exeresis more than 150 patients, many of whom were in the advanced stages in the disease. We have seen large cavities disappear and the sputum become free of tubercle bacilli in a fair number of cases and have noted improvement in more than 40 per cent of 100 cases which we have recently reviewed.

Following the avulsion or section of the phrenic nerve immediate paralysis of that side of the diaphragm is noted. Due to intra-abdominal pressure and the elasticity of the lung the paralyzed diaphragm rises allowing the lung to collapse and permitting the obliteration of the tuberculous cavity. We have seen the diaphragm rise as high as the third rib anteriorly. Of course it naturally follows that the higher the ascent of the diaphragm the better will be the result. Even in cases where the diaphragm becomes slightly if at all elevated the relaxation of the lung tissue due to the elimination of the diaphragmatic pull tends to rest the lung and so promote healing of the tuberculous process.

There are definite indications for phrenic exeresis and these have been outlined in our recent paper which will shortly be published in the "Annals of Surgery." Briefly they may be stated as follows: (1) As a preliminary procedure in artifical pneumothorax. (2) In moderately advanced tuberculosis that has shown no improvement following rest, etc., and where artifical pneumothorax is either impossible on account of adhesions or where it cannot be well borne by the patient. (3) It is especially indicated in basal tuberculosis. (4) As a preliminary to thoracoplasty. (5) In those cases where pneumothorax must be continued indefinitely phrenicectomy adds a margin of safety and lessens the number of refills. (6) Where pneumothorax is being lost due to adhesions.

The operation of phrenicectomy is not difficult but at times may be very troublesome. The position of the nerve varies considerably, and not infrequently there are accessory nerves, which must be severed if a good result is to be expected. In this operation certain complications may arise as hemorrhage, injury to the brachial plexus or to the thoracic duct. In our own work we have been fortunate not to have experienced any of these complications. As I have previously stated the work is not difficult but I would like to emphasize that it should not be undertaken by one who is not familiar with the anatomy of the neck and the surgery of this region.

Our experience with thoracoplasty has been rather limited. We have performed the operation in six cases of tuberculosis with improvement in all and two of these may be considered cured. The indications for this procedure are sharply defined and if good results are to be obtained it is necessary to observe these indications.

We have performed extra-pleural thoracoplasty in one stage. However, we do not advocate such a procedure but rather are inclined to the multiple stage operation. There is considerable shock associated with the wide excision of the ribs and consequently a multiple stage operation is tolerated much better by the patient.

There are other surgical methods by which certain types of lesions may be treated. However, the two methods which have been previously outlined are the chief modes of surgically attacking pulmonary tuberculosis. Since the widespread use of surgery in this dread disease the results have improved and many apparently hopeless invalids have been cured, or rather their disease arrested.

W. R. Pryor: Forty years ago Morrell MacKenzie said that every patient who had tuberculosis of the larynx died. However, we now know from observation and experience that this is untrue; a great many of these patients recover.

There are two men in this country, connected with the Maryland State Hospital, who have been doing some excellent work in cauterization of the larynx for tuberculosis. For the past five years they have been doing this work, and have cauterized five hundred cases. They are very enthusiastic about the method, and give it preference over other forms of treatment.

During the past year I have practiced cauterization for laryngeal tuberculosis in about seventy-five cases, at Waverly Hill Sanatorium and in private practice, and the results have been most gratifying. There are three types of cases in which we consider cauterization indicated: First, cases in which light treatment has been used for several months without improvement and the lesion is progressing; second, those cases in which, because of weakness, light therapy cannot be used; third, the third type in which we use the cautery with satisfactory results is where the patient has extrinsic laryngeal involvement with pain on swallowing. In every case where I have used the cautery, the patient has been able to swallow the next day without pain.

I have one patient now under my care who had been treated elsewhere for Vincent's angina and syphilis of the larynx for one year. I have cauterized him five times, and the epiglottis has been reduced from a large mass to practically normal size. Last week I was able to do my first intrinsic cauterization.

For anesthesia I use first a cocaine and adrenalin spray. After I have the pharynx anesthetized, cocaine is applied directly to the larynx using the laryngeal mirror and curved brush. Satisfactory anesthesia is obtained in this way. For the cauterization I employ a special cautery instrument invented by Dr. Franz Hasslinger, Klinik Hajek, Vienna.

I think cauterization should be employed in selected cases and when properly used has a brilliant future in the treatment of tuberculosis of the larynx.

Virgil E. Simpson: I think one of the practical lessons that may be deduced from the presentation by the essayist is that primarily success in the management of pulmonary tuberculosis rests on accurate diagnosis and careful study of the individual case.

The first step incident to treatment consists in the determination of what therapeutic measures are applicable to the particular case under immediate consideration. Generalities are valuable in the management of chronic conditions, but individualization is, I believe, the key note of greater success. Applying, then, the law of generalities it may be said that other things being equal, the simpler plans of treatment should be inaugurated first. The other plans of treatment embracing rest, a suitable diet, atmosphere exchange and sunlight, should always be given the benefit of an adequate time period before registered as failures and more radical plans instituted.

For example it is admitted that physiological rest is advantageous in a pulmonary lesion. Many cases will become arrested and later healed by virtue of the limitation of respiratory tract activity through recumbency, the use of sandbags, etc. When these fail artificial pneumothorax being the least permanently disabling of the newer procedures should be done. While it has the disadvantages of the necessity for refills at varying intervals it has, however, the distinct advantage that if arrest and healing occur in consequence of its use the lung will expand to a surprisingly large degree of original function after the discontinuance of its use. It also has the advantage that if an attempt at collapse of the lung by intrapleural air pressure fails no disabling sequela occur and its establishment in nowise renders any subsequent and more drastic procedure more difficult or less desirable.

The only undesirable consequence of artificial pneumothorax that is of serious moment, is a pleuritic effusion with infection. Such an empyema is often disastrous, but the per cent of its incidence is sufficiently low when contrasted with the beneficial effects often obtained in indicated pneumothorax to justify the risk. If artificial pneumothorax fails after a reasonable maintenance of collapse, or if failure to secure collapse because of adhesions results, a phrenectomy may then be considered.

In resorting to this operation it must be borne in mind that its effects are permanent and that if the disease is unilateral at the time of its performance the other lung may subsequently become diseased and the outlook is then a more serious one. If this line of reasoning be correct we then look upon thoracoplasty as a dernier ressort. It is an operation which carries with it a major insult even were it done on a normal individual and must certainly be considered with great care when it is to be done upon an individual whose vitality is at as low an ebb as that of a tubercular offering indications for its establishment.

With the increased experience and perfection of technique which will follow as a result of its more frequent performance the mortality rate will be lower but I am inclined to feel that even then the case should have had the benefit of plans providing less serious drain on his vitality and that very definite indications should obtain for its performance. At the recent Session of the American College of Physicians this subject was presented as a symposia and all of its angles discussed. Surgery in the direction of phrenectomy and thoracoplasty offer a small per cent of pulmonary tubercular cases an additional chance and some very satisfactory results are being achieved. In closing then I would urge as I began, though in different phraseology, that the simpler and easier and less insulting procedures should be inaugurated first for one can never unscramble one's eggs.

William A. Jenkins: There is one phase of this subject that has not been mentioned, that is the cauterization of adhesions with the end in view of making patients with pulmonary tuberculosis more amenable to some of the forms of treatment the essayist has described. Dr. Miller says he purposely omitted consideration of this phase of the subject. I wish he would tell us something about it in closing based on his own experience and observation or from the experience of other medical men who may be familiar with this method. As I understand the matter, the object of the procedure of cauterization of adhesions is this: the adhesions, on account of their location, density and firmness, render the lung unsuitable for any of the ordinary methods of treatment so well illustrated by the essayist. In several cases which have come to my notice the patients traveled long distances, as a last resort, to apply for this type of therapy. The majority of them died before reaching home or returned without appreciable benefit. It seems to me that this method of treatment is still quite sub judice, or at least it has thus far proven of little benefit.

If we could get our cases of pulmonary tuberculosis early, before destructive processes have occurred, the majority of the patients could be cured by relatively simple procedures.

Jos. M. Frehling: I had the good fortune to be associated with Dr. Lilienthal, of New York, for a considerable period a few years ago. He is probably the most eminent chest surgeon in this country. After observing his work and assisting him in the surgical treatment of pulmonary tuberculosis, I reached a conclusion which induces me to take exception to the attitude which has been adopted generally by most men interested in the treatment of pulmonary tuberculosis, namely, that thoracoplasty should be employed only as a finality. I quite agree, of course, that tuberculous patients should be carefully studied by every means at our command; that diagnosis should be made as to the extent of the pulmonary involvement, and that certainly all the simpler methods of treatment should be tried in the beginning; but I think it is a serious mistake to perform thoracoplasty only as a dernier ressort. I realize that has been the tendency heretofore, and I believe that is the reason why the mortality rate in pulmonary tuberculosis is so high. There is no question that many patients who have died could have been saved by earlier thoracoplasty. Where the results with the popular methods of treatment of any medical condition are poor and the mortality rate is conceded to be so high it seems to me that the profession would accept with enthusiasm any procedure that offers the hope or possibility of reducing that mortality rate. Thoracoplasty offers that hope and possibility in the treatment of pulmonary tuberculosis. The results already obtained by this procedure are of such a character that they indicate that, if no more, they at least entitle this method to a fair trial before it is condemned. A fair trial hardly means that it is to be used only as a finality. This is not a difficult procedure and technically it is quite simple; in fact, at times it may be easier than phrenicectomy. Even in those institutions where thoracoplasty is not looked upon with ill-favor, the tendency toward conservatism is developed to such an unwholesome degree that this procedure is attempted, in most instances, only, after everything less radical has been tried; only when the patients have been told by their physicians that their cases are hopeless, that they are certain to die, etc.—then they are brought to the hospital for thoracoplasty. During my service with Dr. Lilienthal I did not see a single patient die in the hospital after thoracoplasty. Most of them showed remarkable improvement even in the short time they remained in the hospital, and I am sure many others who did not improve would have shown some improvement had the operation been one of choice rather than one of necessity.

Thoracoplasty should be recommended earlier if the patient does not improve under simpler methods. It is a mistake to wait until the patient is in extremis before resorting to thoracoplasty, and unfair to interpret the results obtained under those circumstances as a true criterion of the efficacy and value of the operation.

Dropsy of Gallbladder—Gianturco brings out that whereas, up to a few years ago, it was generally held that an occlusion of the bladder sufficed to produce dropsy, the present trend of opinion is that, in addition to the closure of the excretory duct, the anatomic abolition of the mucosa, or at least an alteration in its functioning, is necessary and that that is usually brought about by infective processes developing within the bladder. In the reported case, the existence of an infective factor is shown by the frequent elevations of temperature to which, the patient was subject when she suffered her attacks of pain. In addition, the operative finding of a mucosa of gelatinous aspect and so friable as to be easily pierced with the dull edge of the spoon with which the calculi were removed furnished the author further evidence that the mucosa was no longer functionally normal.

PRIMARY MELANOSARCOMA OF THE MENINGES, REPORT OF CASE*

By John J. Moren, M. D., Louisville.

W. D. H., male, aged 62, married. Occupation, salesman. Born and raised in Kentucky. Was a regular worker and never dissipated. Family and personal history not important.

During 1928 he worked very hard promoting a new company. In August of that year he had what he described, a dizzy spell. Two or three of these occurred, and in October the dizzy spell was accompanied by loss of consciousness. In November he had another attack, and was admitted to the Baptist Hospital.

The examination revealed a slight weakness of the left side, with a slight slurring of speech. The pupils were regular, equal and responded to light. No nystagmus, in fact no cranial nerve signs. The tendon reflexes were equal and not abnormal. No sensory change. Blood pressure was low.

Labortatory findings: Blood erythrocytes 4,260,000, leukocytes 4,300. Differential count: 63 polymorphonuclears, 23 lymphocytes, 7 mononuclears, 2 eosinophils. Blood Wassermann negative.

Urinary analysis showed trace of albumin, a few hyalin casts. He impressed us as being exhausted and digitalis was ordered.

After a few days in the hospital he returned to his home and was confined to his bed. I saw him on several occasions with Dr. Zaring, and no defnite diagnosis could be made. He showed periods of slight delirium, more a mental wandering.

An interesting phase was that he would sleep during the day and not at night. The clinical findings were negative. He had no fever nor was there any striking change in the circulation. The only pain was an occasional left occipital headache. He took little nourishment, and continued to lose ground. No medication seemed to have any effect upon his condition. I thought possibly we were dealing with a question of encephalitis, basing this opinion more upon the absence of symptoms than the presence of symptoms.

On December 31st he had another attack, which was more of a general convulsion than any of the previous attacks. His wife thought that the left side was involved more than the right. He re-entered the Baptist Hospital.

Following this attack he was more delirious and mumbled and talked incoherently, and was difficult to keep in bed. On admission to the hospital his temperature was 99°

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*Read before the Jefferson County Medical Society.

F., pulse 72, respirations 18. The urine still contained a trace of albumin, and a few hyalin casts. No abnormal reflexes or signs of cranial nerve involvement. No defect about the extremities. The speech was difficult but not striking. He vomited following this attack and continued at irregular intervals. It was of the projectile type.

On account of the delirium and difficulty of managing the man he was sent to the City Hospital. The laboratory report at the City Hospital on January 4th: Cerebrospinal fluid showed globulin 2 plus, cells 21, lymphocytes 18. Pressure was 300 milimeters. On January 9th, the globulin was 3 plus, with 41 cells. There was some question as to whether there was choking of the discs. X-ray examination of the skull was negative. Physical examinations showed no change from other examinations. General weakness with mild delirium to drowsiness, were the most prominent symptoms.

The patient continued to lose ground, took but little nourishment. On the 23rd of January the interne's notes showed delirium, drowsiness, no inclination to take nourishment. All fluids and foods are given with difficulty.

On January 30th abdominal reflexes present and apparently normal. Tendon reflexes slightly diminished, but present. General weakness.

On February 14th, patient in serious condition, rapid respiration, stiff neck, positive Kernig. Respiration 78, pulse 120, temperature 103° F. Patient died on the 15th.

COMMENTS

On the first visit to this patient the impression led us to the opinion that possibly an arteriosclerosis was the basis of his condition. There were no signs to lead us to suspect anything other than a general systemic disturbance. Later in the course of the disease, especially when he began to sleep in the day and fail to sleep at night, regardless of the sedatives which we gave him, with the mild delirium, we suspected encephalitis This was based upon the inspection and observation of patient rather than upon clinical findings.

We believed that we were dealing with a cerebral disorder but we had no indications to lead us to suspect any special disease Regardless of the medicines we gave the patient there was no influence made upon the clinical course. Even in February, five months after we first observed him, we had no clinical signs at all, but still held to the opinion that his trouble was cerebral, so it was a question as to whether there was a general cerebral atrophy, an inflammatory process, as in encephalitis, or brain tumor.

The various staff men who saw this patient in the City Hospital favored encephalitis, especially with the increased number of cells in the cerebrospinal fluid.

We were fortunate in obtaining permission for a post mortem examination, which revealed the true condition.

DISCUSSION

A. James Miller: I am indebted to Doctor Robt. P. Ball, who did the necropsy, for the privilege of showing this very rare specimen, which consists of the brain.

On the basal surface there is a diffuse black growth of tumor tissue which is in striking contrast to the grayish brain. From the base it extends over each lateral surface toward the vertex and also down the cord in a similar manner to the cauda equina. The cerebro-spinal fluid was not increased and the convolutions showed no evidence of pressure.

Microscopic study shows this black material to be tumor tissue which has destroyed part of the meninges and the adjacent brain cortex. The cells are elongated and stellate shaped, resembling somewhat connective tissue cells. The nuclei are vesicular and occasionally multiple. There are a few mitotic figures. The cells are producing much black melanin which is found between the cells and also in the cytoplasm. They have their origin in the pia.

The pia is normally slightly tinged with melanin. In the black race this pigmentation is quite marked, especially over the pons and medulla. The tumor is classified as a melanosarcoma of the meninges.

This type of tumor is exceedingly rare, there being only nine cases reported in the literature.

The remainder of the post-mortem examination showed only an extremely emaciated body and atrophic viscera, evidently the result of starvation. There was no pneumonia. No other cause of death was found than the extreme starvation.

The post-mortem findings are: (1) Primary melanosarcoma of the pia, involving the brain and spinal cord, and extending into the cortex. (2) Emaciation.

Wm. E. Gardner: I would like to call attention to one point in this case, and that is the importance of post mortem examination. The clinical symptoms, as related by Dr. Moren, justified him in considering all the diseases mentioned, arteriosclerosis, encephalitis, meningitis, etc. In the absence of a necropsy he would have been justified in making the diagnosis of lethargic encephalitis with meningitis after the patient began to show signs of meningeal irritation. There were no reflex disturbances nor other localizing symptoms which would have led one to consider the possibility of cerebral neoplasm. There were no suggestive eye ground changes, even papilledema being questionable.

The drowsiness, delirium and other manifestations were not unlike the symptoms of lethargic encephalitis, and certainly Dr. Moren was justified in considering this possibility.

The result in this case shows how important autopsy is in any case, and particularly in obscure cases such as Dr. Moren has reported.

William A. Jenkins: There has come into the field of diagnosis within the last few years a procedure or measure which perhaps bids fair, when we understand how to use it properly, to throw considerable light on obscure cerebral conditions, at least it will be helpful in narrowing the field somewhat by excluding certain lesions. When we come to consider the difficulty of differentiation between degenerative and atrophic changes due to arteriosclerosis, internal hydrocephalus and brain tumor, anything that will be of service to us in obscure cases, where the clinical syndrome does not definitely make the diagnosis for us, should be welcome. The measure is known as encephalography. The method has been more or less known to me for some time.

In the last issue (March 1930) of the International Clinics there is an article by Dr. Friedman, of New York, who reports 24 cases observed during the past three years in which this diagnostic measure was used. In encephalography he withdraws cerebrospinal fluid and introduces air slowly, watching the patient constantly for the development of symptoms, then makes a series of roentgen-ray pictures. He seems to be very enthusiastic about this method, especially in the diagnosis of brain tumors. In these cases there was not a single failure in diagnosis. In brain tumor, where the clinical symptoms were obscure, he found there was displacement of the ventricular system, a ventricular shift to the opposite side from the tumor. This was universally true in that portion of the 24 cases in which brain tumor was present He found in so-called internal hydrocephalus there was no displacement of the ventricle, but the ventricle was enlarged at the expense of the brain substance.

I do not know whether any work of that kind has been attempted in this part of the country, but it seems to me there are times when it would be exceedingly useful. If an early diagnosis of brain tumor can be made by this method of examination, where the clinical symptoms are atypical or obscure, surgical removal may be accomplished before the tumor has progressed to the stage where the patient's life is seriously endangered.

If any of the members have seen any of this work done, I would be glad to hear about it.

Joseph C. Bell: Dr. Jenkins mentioned the diagnostic procedure, encephalography. At present this term is used to denote the replacement of cerebrospinal fluid by air, the introduction of air and withdrawal of fluid being by lumbar or cisternal puncture. The term ventriculography is now applied to direct introduction of air into the ventricles of the brain by the way of a cannula that is passed through a trepine opening, thence through the brain substance into some part of one of the lateral ventricles. Both of these procedures were first described by Dr. Dandy.

In encephalography the air passes upward through the spinal canal and into the subarachnoid spaces around the brain A portion of the air passes through the foramina of Magendie and Luschka into the ventricles. The diagnosis of intracranial pathology is made by irregularities in the filling of the subarachnoid spaces, or because of dilatation, distortion or displacement of the ventricular shadows.

Encephalography is of definite diagnostic value and its use is increasing. A relatively large number of such examinations have been made on the neurological service of the Louisville City Hospital and by Dr. Spurling in his private practice.

John K. Freeman: The case reported by Dr. Moren is very interesting and so far as my observation is concerned it is entirely unique. Melanosarcoma involving practically all the brain substance must be exceedingly rare.

Little has been said about microscopic examination of sections from this tumor. I wish Dr. Miller or Dr.Ball would tell us something about the character of the tumor cells as shown by the microscope.

John J. Moren, (in closing: If there had been any clinical signs to even cause us to suspect one type of pathology or another we might have resorted to other diagnostic measures; but we were completely at sea, we had nothing to guide us except the general change in condition of the patient and the obscure brain symptoms.

One thing not mentioned in my report is that I recall the patient wore an eye-shade constantly. I asked his wife about this and she said he wore the eye-shade all the time, therefore I paid no attention to the matter. It may be he had some photophobia which caused him to wear the eye-shade.

The death certificate in this case was signed "encephalitis" because we knew nothing else to put on it.

A. James Miller, (in closing) : I mentioned the pigment normally found in small quantity in the meninges simply to illustrate the original of this type of tumor tissue. This pigment is found in both the white and black race, but it is much more abundant in the negro. The tumor did not metastasize, but was malignant locally, in that it destroyed the pia and part of the arachnoid, and also extended for a short distance into the cortex of the brain, which it replaced. The cells resemble connective tissue and are producing an abundance of melanin.

INDICATIONS FOR CESAREAN SECTION*

By Alice N. Pickett, M. D., Louisville.

I am glad to bring this subject before the Society tonight because I hope to gain from your discussion much help in the handling of my own border-line cases.

To section or not to section, that is the question that surely must come to all of us many times in the future, as it has come so often in the past.

I suppose there is not one of us who has not suffered mental torment over the death of a baby that might have been saved had the abdominal route been chosen for delivery instead of the vaginal. On the other hand, we all realize that if we should decide on a section every time we had any anxiety for the safety of a baby, we would subject many women to unnecessary risk, both immediate and remote.

As the surgical technique is perfected for any given procedure, always the indication for that procedure widens. This has been so true of Cesarean Section that at the present time in many parts of our country, it is a much abused operation. Dr. Geo. Mosher in June, 1927, and Dr. Jeff Miller in June, 1929, reported the following figures as to the incidence of the operation.

	Section		Deliveries
Burnside, Toronto	1	per	861
New York Lying-In	1	per	586
Hopkins Hospital (Balt.)	1	per	103
Rotunda Hospital (Dublin)	1	per	97
Sloan Hospital (New York)	1	per	36
Boston Lying-In	1	per	12
Jefferson Hospital (Phila.)	1	per	6

These figures are illuminating. What could make such a wide variance in the incidence of any given operation? In New York City, one hospital sections one woman out of 36 deliveries, while another great hospital in the same city gets on with one section out of every 586 deliveries.

Even though the Boston Lying-In geographically lies between Toronto and Baltimore she sections one woman out of every 12 delivered while the Burnside Hospital at Toronto and the Hopkins Hospital at Baltimore section one woman out of 861 and 103 respectively.

The excessively high rate at the Jefferson Hospital at Philadelphia is doubtless due to the fact that the hospital handles almost exclusively abnormal cases admitted from the out-patient department. However, one section out of every 6 abnormal cases gives a very high rate for surgical interference.

What is the growing popularity for this operation? To begin with, it is a quick and easy way out of our mechanical difficulties. The tempo of the obstetrician should be much slower than that of the surgeon. But, in America, everybody is speed crazy, even the obstetricians. Cesarean Section relieves the tedium of long labor for the patient, the family and the attendant.

The second reason for this high percentage of Cesarean Section is the belief of the laity, and of many of the profession, that this is an operation practically devoid of danger for mother and child. Many people believe it is safer than the normal, spontaneous delivery by the vaginal route; and the operation is frequently done "on request." On studying the records of any great obstetrical hospital, one is struck by this fact—there are fewer interference cases and a lower mortality rate both for mother and child among the charity cases than among the private patients. The greater frequency of all types of interference including Cesarean Section, I believe is due in part to pressure brought to bear on the attendant by the patient and her family. The fact that the interne or resident watches the progress of labor for the charity cases, while the private cases make larger demands upon the time and patience of the attendant may have some bearing on the situation.

The third reason for the frequency of the Cesarean Section lies in the dearth of consulting-obstetricians in this country; and the failure of the general practitioner to employ the services of the ones we have. These conditions result from the past poor obstetrical training in our Medical Schools, from which we have been sending out men by the hundreds with very little knowledge of the physiology of obstetrics.

They do not know that the practice of obstetrics should be a fine art, as definitely outlined as the practice of medicine or surgery. A general practitioner feels no humiliation at consulting a surgeon on any subject which even remotely touches the surgical field; but he suffers from a very distressing inferiority complex at the thought of consulting an obstetrician when he is up against a difficult obstetrical problem. As a result he handles his difficult cases as best he can. When he has a case of cephalo-pelvic disproportion, he usually first resorts to the use of pituitrin. After he has used as much of this commodity as in his judgment he deems safe, he tries forceps. The next step is an attempt at version and then he calls a surgeon. The surgeon oft-times has not had so much obstetrical knowledge as his colleague and his only course is to cut the baby out.' It is gratifying to learn, however, that there is an increasingly large number of surgeons in this country who refuse to do sections on toxic cases without consultation with an obstetrician, and a smaller number of surgeons who make it a rule to consult with an obstetrician before doing a Cesarean Section for any cause.

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*Read before the Louisville Obstetrical and Gynecological Society, February, 1929.

The study of the mortality rates resulting from cases delivered by section gives us pause. The three leading causes of maternal death are infection, toxaemia, and the accidents of labor including hemorrhage. Lately we have had to add Cesarean Section, which in Massachusetts, according to the records of the State Board of Health, is second to infection alone as a cause of maternal death. Dr. Polak states that Cesarean Section must necessarily carry with it a greater mortality than that of the clean abdominal section not associated with pregnancy. In his study of more than six thousand cases which he conducted with Drs. Holland, Gordon and Beck, he found that the mortality in clean cases operated upon before labor had begun with the membranes unruptured or just after the beginning of labor, was approximately 3%. This, as I understand it, is about twice that resulting from the average clean abdominal section not associated with pregnancy. Dr. Polak and his confreres found that after the membranes had ruptured, the mortality rate rose to 6%. After intra-vaginal interference, the maternal death rate rose from 10 to 20%, depending on the amount and type of intra-vaginal manipulation.

He contrasts this with the mortality rate of 3-10 or 4-10 of 1% which is the average mortality in spontaneous deliveries. The reasons for this increased risk are simple enough. It has been proven according to Dr. deLee that the vaginas of apparently healthy women contain in late pregnancy, streptococci and staphylococci in about 15 to 75% of the cases. At Cesarean Section, cultures have been grown from swabs taken from the lower part of the uterus in cases where the bag of waters was intact and where no vaginal examinations had been made during labor. The germs lie in the vagina, living the life of saprophites, but as soon as they invade new territory they take on a virulence that may work havoc in the uterine and abdominal wounds. Besides these two areas of possible infection, we have with us always the open sinuses of the placental site, which offer an ideal culture ground for microorganisms entering from the vagina or lower uterine segments,.

The second reason for the especial risk of Cesarean Sections lies in the lowered resistance to infection of the pregnant woman. We must keep in mind that pregnancy is a condition effecting every tissue of the woman's body, and not the generative tract alone as is generally believed. It has long been known that pregnant animals can be more easily inoculated with germs than the non-pregnant. If to this handicap is added fatigue from a long labor, dehydration, hemorrhage, toxaemia or intra-uterine manipulations, we have indeed a formidable situation to contend with.

It is also a paradoxical truth that the operation is dangerous because it is easy. Dr. Mosher thought that, with the possible exception of low forceps, Cesarean Section was the easiest of all obstetrical procedures. For this reason many men are tempted to perform this operation who would shrink from undertaking other major abdominal surgery because of their lack of surgical training. Kentucky seems less guilty of this indiscretion than some of the other states. I noticed in the report of the Federal Bureau that of our 201 deaths in 1927 occuring among women delivered after the 28th week of pregnancy, only 17 or 8 1-2 % had been subjected to section. This record may however be due to the paucity of hospitals in the rural districts rather than to our modesty or our sound obstetrical judgment. By comparison with Kentucky, Massachusetts is a densely populated state, with many hospitals and innumerable surgeons.

Besides risks characteristic of Cesarean Section, we have to contend with all those associated with any laperotomy, e. g.—infection from without, intestinal obstruction, paralytic ileus, embolism, hemorrhage, pneumonia, etc.

It can never be true that delivery by section is as safe as a comparatively normal vaginal delivery. Nature has wonderfully safeguarded woman in labor and we do well to follow her plan as closely as possible.

However, paint the picture black as we may, we cannot get on without Cesarean Sections. The operation constitutes one of the greatest boons to women. It becomes a menace only in its abuse. Let us study the legitimate indications.

Cephalo-pelvic disproportion will always hold first place among the indications for Cesarean Section. Dr. deLee says an absolute indication for Cesarean Section exists when the parturient canal is narrowed so much that the child, even reduced by mutilating operation, cannot be brought through with safety to the mother. A Conjugate Vera of 6—6 1-2 or an immense child will give an absolute indication. Dr. Williams makes a conjugate vera of 5 c. m. an absolute indication for section, but extends this to 7 1-2 c. m. providing the child is living, the child in ideal condition and the surroundings suitable for abdominal operation.

However, we must keep in mind the fact that the great majority of women having contracted pelves deliver their babies spontaneously. In 7,500 cases of contracted pelves, from 75 to 78% delivered spontaneously according to the records of Montreal, Schauta and Williams. In the handling of these cases we must keep continually in our minds that there are four factors concerned with normal spontaneous labor besides the size and shape of the pelvis. These factors are,—the size of the baby,—the presentation and the position of the baby,—the character of the pains,—and the malleability of the baby's head. Thus, oftimes, two women with the same pelvic measurements and babies of the same weight, may present entirely different problems. Dr. Jeff Miller thinks that contracted pelvic cases may be divided as to prognosis, as follows:

Normal spontaneous delivery may be expected in from 75 to 78 % of the cases.

Forceps or version should be resorted to in from 15 to 20% of the cases.

Cesarean Section should be used in from 10 to 12% of the cases.

The dangers from Cesarean Section increase with the hours in labor—the rupture of the bag of waters—the number of vaginal examinations—the induction of labor by bag insertion—attempts at delivery by forceps or version and craniotomy.

The old dictum,—"Always a craniotomy rather than a Cesarean Section for a dead baby," applies in nearly all cases of intrauterine death. Two outstanding exceptions are, first, a conjugate vera so small as to render the delivery of even a mutilated baby impossible or extremely dangercus to the mother and secondly, a tight contraction ring or a tightly retracted uterus.

Other indications are: obstructive tumors in the pelvis and exostoses. However, under good prenatal care many tumors may be discovered and removed during pregnancy, thus obviating the danger of obstruction during labor. Many fibroidal tumors lift during late pregnancy or early labor and produce no dystocia.

Stenosis of the cervix or vagina may constitute an indication for section though the former condition may usually be successfully handled by bag insertion.

Carcinoma of the cervix or the rectum demand delivery by section.

A cord prolapsed through a rigid and poorly dilated cervix as in a primipara, may be best handled by section. After the cervix is soft or dilatable these cases lend themselves to version or a quick forceps extraction.

Eclampsia was quite generally handled by section ten or fifteen years ago. The method proved disastrous and has practically been abandoned. Next to accouchement force, sections have resulted in more deaths than all the other methods of handling these cases put together. A generally accepted teaching now is that Cesarean Section should not be used in toxic cases except in those rare instances where the toxaemia does not respond to medical and eliminative measures, and where the cervix is long, rigid and undilated as in the case of the primipara. According to Dr. Jeff Miller the mortality rates in toxic cases delivered by section, range from 26 to 66%, while those cases treated conservatively carry a mortality rate from Stroganoff's 2.6% up to 18.9%, the average being about 10 per cent.

Cesarean Section is rapidly growing in favor as a means of handling cases of placenta praevia centralis. To quote Dr. deLee, "An indication for Cesarean Section will arise in cases of central or partial placenta praevia when the pregnancy is at or near term, with a living child, the mother in good condition, the cervix being closed or promising difficulty in dilatation,—conditions most common in primiparas." Dr. Williams still maintains a very conservative position on the treatment of placenta praevia by section. He says, "I believe that the skillful obstetrician will rarely need to resort to Cesarean Section except under a few conditions. First, in the very rare case of the primi para whose cervix is too rigid to permit the introduction of a balloon, and second, in cases of complete placenta praevia in women nearing the end of the child bearing period who are especially desirous of a living child. Furthermore, I am prepared to admit that in many instances Cesarean Section done by a competent general surgeon will give better results, than obstetrical treatment in unskilled hands—but that is not ideal obstetrics."

Several of our outstanding obstetricians employ Cesarean Section as a means of delivering all cases of placenta praevia except those of the marginal type.

Dr. Miller, however, gives the following statistics:

Six (6) outstanding obstetricians using conservative measures show maternal mortality ranging from 1.7% to 5.9%; while four other sets of cases studied where the section was used routinely, show a maternal mortality from 3.6% to 12 1-2%.

Unfortunately the delivery of placenta praevia cases by the vaginal route, either by Braxton Hicks Version, or Voorhees Bag, must carry a high fetal mortality. The pressure brought to bear on the placenta to control the hemorrhage often results in placental asphyxia and the loss of the child. The fetal mortality resulting from the Braxton Hicks Version was about 50%. After the introduction of treatment by the Voorhees Bag, this was considerably lowered.

However, the fetal mortality remained so high that many of the obstetrical leaders of America have recently begun to wonder if we are giving the baby his fair chance for life. The men embracing Cesarean Section as a means of treating the majority of their placenta praevia cases are said to have cut down the mortality rate for viable babies, to about 5%. The risk to the mother, however, necessarily increases. After reading a great many papers dealing with the subject, it seems to me too much stress has been laid on the encroachment of the internal os by the placenta and too little paid to the viability of the baby and the dilatation of the cervix. The encroachment is so often relative, e. g.,—the placenta praevia may be central at one finger dilatation and mid-lateral at three (3) fingers. Then too, most placenta praevia babies have a poor chance of life both from prematurity and from puniness due to malnutrition occasioned by the poorly developed placenta. For such a child the safety of the mother should NOT be put to jeopardy.

A section in a placenta pravia case carries a very special risk from infection. This is due to the low implantation of the placenta exposing it to the presence of bacteria in the vagina. To drag this contaminated placenta through uterine and abdominal incisions, occasions considerable risk.

Secondly, the placenta praevia handled by section runs a greater risk than other laparotomy cases because of inevitable hemorrhage. However, if the baby is living and viable, the encroachment central or approaching central, the cervix rigid and of slight dilatation and the mother in good condition for the laparotomy, I think, we should give the child his best chance by delivery through the abdomen.

It is preferable in cases of Placenta Praevia after the hemorrhage has been staunched by pressure from the vaginal pack, bag or breech, to give the woman time to react from the shock before emptying the uterus by any method whatsoever. Morphine and intravenous glucose may be used to advantage and a blood transfusion should be done at the earliest possible time as a means of combating infection, for infection follows on the heels of hemorrhage, almost as surely as the day follows the dawn. Those cases are indeed fortunate who are tranfused before they are subjected to the inevitable additional loss of blood during the third stage.

A placenta abruptio should always be delivered by section, I think, unless the cervix is found to be completely dilated so that a delivery by version may be accomplished at once. Sections done for ablatio or placenta accreta should always be followed by a hysterectomy as a means of controling the bleeding from a disintegrated misculature.

There are two obstetrical complications which I think call for section without exception. These are a tight contraction ring or a tightly retracted uterus. I can think of no complication more hazardous to the safety of the mother and child than these. If the contraction or retraction is marked, the baby is inevitably lost and the mother runs a tremendous risk of ruptured uterus whether she is delivered by forceps or version even though the extraction has been preceded by a craniotomy. This complication is not usually discovered until late in labor after forceps have been applied in vain and a version has been attempted. In spite of this fact, I think the woman runs a lesser risk through Cesarean Section, even at this late hour, than from any other method of delivery. Ideally a low section or an extraperitoneal should be done.

And, last of all, we come to those cases of pregnancy following a previous delivery by Cesarean Section. How should a young woman be treated in her second labor when she was delivered the first time by section because of a cord prolapsed through a rigid cervix showing only 2 1-2 fingers dilatation, the case being otherwise normal? We know that about 4% of the classic Cesarean Section scars rupture during the last two months of a subsequent pregnancy or under the strain of a subsequent labor. How can I tell whether my case will fall in the 4% group or in the fortunate 96% group? The ruptured cases are said to carry a maternal mortality of 30% and a fetal mortality of 70%. Dr. deLee delivers these cases by Cesarean Section "when the reason for the first one still exists, e. g.—contracted pelvis; when infection occured after the first; when it is known to have been done imperfectly; when other conditions make it advisable to open the abdomen, e. g.—a hernia in the scar, the advisability to tie off the tubes; appendicitis, fibroids, etc." He states the risk from a ruptured scar produced by a low cervical operation is much less than that from the classic operation. He says that only eleven (11) cases of rupture from the low operation were reported up to April, 1928.

HOARSENESS IN CHILDREN*

By Leo Jacobs, M. D., Covington.

The reasons for presenting a paper of this nature are three in number:

1. That there has been a steadily increasing numbers of these cases seen by oto-laryngologists;
2. That in none of the so-called authorities have we been able to find material relative to this topic grouped in such a way as to be clinically applicable to a given case;
3. That a negligence of the proper diagnosis and treatment may cause lasting damage and perhaps death. There will be nothing new or novel presented in this paper but rather a compilation of material gained from many sources as to the commoner types seen with a brief resume of their treatment.

In confining this paper to the hoarseness that occurs in children we must at the same time modify our definition. Throughout this paper the term hoarseness will be construed to mean a deviation of the talking or crying voice from normal or the presence of an inspiratory or expiratory stridor.

A brief pause to consider the mechanical production of hoarseness and its anatomical foundation will convince us of the necessity of accurate diagnosis and treatment.

As Wolf states, the mechanism of voice production is dependent upon three functions:

A. The larynx as a primary source of pitch;

B. The chest as the primary source of power;

C. The resonant chambers of the chest, head, and vault of the pharynx.

Hence, in order to produce a clear voice a respiratory act, unimpeded action of the vocal cords with their proper approximation and a normal vault of the pharynx are essential. Manifestly, impairment of any one of these elements may cause hoarseness.

Added to this, is the fact that the younger the individual, the smaller in proportion will be the free space of the trachea through which the individual has to breathe, so any space restricting lesion here will be decidedly more dangerous to a child than a similar lesion in an adult.

A comparison of the case histories in various clinics, both here and abroad, shows that with minor exceptions the causation of hoarseness in children is practically the same. The only exception to this is that in the American clinics, for some reason unknown, that there are seen many more cases due to thymic enlargement than in the foreign centers. A record, of the cases seen by us, follows very closely the observations made by others. A composite record from all clinics shows that the hoarseness is caused in order of frequency by acute laryngitis, croup, diphtheria, papillomas and thymic enlargements. Other conditions such as the congenital anomalies, laryngismus stridulous and pseudo-membranous croup are very uncommon and will not be considered in this paper.

Acute Laryngitis: Acute laryngitis in children produces two rather well marked clinical pictures. In older children we have a frank laryngitis as is seen in adults and characterized by a cough, a tickling in the throat and varying degrees of hoarseness. In infants and younger children we have the so-called croup. This classification is part determined by the location of the pathology. In the older children we find that the inflammatory area is more circumscript and limited as a rule, to the vocal cords, while in the infant the inflamed area is in a great number of cases below the cords in the trachea. So we see pathologically that croup is really an acute laryngitis. An acute laryngitis in a child may occur as part of a general infection of all of the air passages, or may be due to the action of various chemicals, which have been put in the mouth, such as lye or toy soldiers, covered with certain of the lead paints. But acute laryngitis is almost invariably secondary to invasion from infective foci from the nose and throat above.

The treatment of either condition is both local and general. The local treatment depends upon how severe the symptoms are. If the symptoms are mild the patient will respond to the general treatment. If they are severe we use locally steam inhalations, containing various bland chemicals. In our experience it seems that the thing that does the work is the steam and not the included drug. In the infants and small children we must use a so-called croup tent and for the older patients we use a Sterno Inhalator. Should the respiratory symptoms be very severe an intubation may have to be done. A history of most of these cases will show that they have been preceded by a head cold and if examination shows that a rhinitis is present we instill some medicine in the nose which will by its action cause a better ventilation in the nose and promote better drainage of the nose. Almost routinely we use a solution of Ephedrine hydrochloride. From a standpoint of general treatment we restrict the patient to his bed, employ free catharsis and if needed, prescribe some antipyretic.

Diphtheria: Diphtheria is next to acute laryngitis the most common cause of hoarseness in children despite the wide spread use of the antitoxin as an immunizing and therapeutic agent.

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*Read before the Campbell-Kenton County Medical Society

Diphtheria is so well known to all of you that it is needless for me to go into the clinical picture. But may I call importance to the necessity of making a smear and a culture of all deposits seen in the throat. If there is any doubt as to the etiology in such a case it is always wise to give ten thousand units of the antitoxin and await developments for such a dose should, if the doubtful case is diphtheria, cause an amelioration of the symptoms. If the case is not diphtheria you have done no harm for the introduction of a foreign protein, such as the diphtheria antitoxin, is helpful in all cases of severe infection about the throat.

If the stridor or the air hunger are marked in a case of diphtheria, the best thing to do is to hospitalize the patient so that an intubation may be done if needed.

However, the best treatment is prophylactic in nature, whereby, one makes a Shick test and if the patient is found susceptible to diphtheria to proceed with an active immunization. In this way we are positive that the child will not contract diphtheria at some later date.

Thymic Enlargement: Enlargements of the thymus gland are no longer considered a rarity but have become to be commonly found. I do not think that this is due to an increase in the actual occurrence but to better technic in examination and the use of the x-ray to clear up the diagnosis of the doubtful case. Many hospitals have x-ray pictures made of the mediastinum of every new born. Observations in these places show an occurrence of thymic enlargement 30% to 48%. Symptoms of Thymic enlargement occur, however, in only 8% to 10% of the new borns. The absolute function of the thymus is unknown. Many beautiful theories have been proposed but none proven. The enlargements seen are typically hyperplastic in nature and Warthin says that there is a varied etiology for this hyperplasia. Clinically an enlargement produces dyspnea, suffocative attacks and stridor. The dyspnea is as a rule constant in young infants and increases until the child has a suffocating attack accompanied by great cyanosis. The attacks are repeated with greater or less frequency. When the dyspnea is not constant we find the child having only the suffocative attacks. The stridor is usually inspiratory but in severe cases usually appears upon expiration.

Later in life an enlarged thymus presents the clinical picture known as status lymphaticus.

Diagnosis is by physical examination and Roentgenograms.

Treatment consists in the use of the x-ray. No case should be treated by x-ray unless it produces symptoms even though it is enlarged. And no case should be given more x-ray therapy than is sufficient to ameliorate the symptoms.

Papilloma of the Larynx: Papillomatosis of the larynx is one of the commoner causes of hoarseness in children. In the majority of cases they disappear spontaneously at puberty. They are very characteristic in appearance and can affect any part of the larynx.

They are benign tumors in that they do not metastasize and malignant in that they recur and can be transplanted. Microscopically they consist of thickened epithelium.

All internal medication is with effect. The help that one gets from x-ray therapy is problematical and unless given in small doses, will cause a severe perichondritis of the larynx.

The accepted treatment is to remove the papilloma with a dull currette as often as they occur.

Conclusion

In conclusion may I again repeat some of the points that I have tried to bring out in the paper.

1. A careful history is essential.
2. Any deposit on the mucosa of the respiratory tract seen should be cultured.
3. If there is any doubt as to the nature of a deposit to give the patient some diphtheria antitoxin.
4. To treat all of the foci of infection found.

Role of Musculature in Regulation of Blood Sugar—In experiments on rabbits and dogs Hetenyi demonstrated that when the amount of sugar consumed by the muscles is increased there forms in the latter a substance that causes mobilization of the sugar in the liver, thereby preventing a decrease in the sugar content of the blood and a decrease in the glycogen reserve of the muscles. He states that a substance with a similar action (perhaps the same substance) can also be demonstrated in resting muscle from animals with pancreatic diabetes; this observation lends additional support to the omnicellular peripheral theory of diabetes mellitus.

TWO UNUSUAL CASES OF TULAREMIA*

By William J. Young, M. D., F. A. C. P., Louisville.

There has been so much published regarding tularemia, in both medical magazines and in the newspapers, that the public has conceived the idea that to acquire the disease, one must come in contact with the rabbit. This, of course, is untrue. It has been shown by numerous observers that tularemia may also be acquired by infection from bites of the deer-fly and ticks. Wild rats and mice harbor this infection.

The diagnosis of tularemia is usually readily made if a careful history is taken, and the objective symptoms exhibited by the patient are accorded proper consideration. In the ulcero-glandular type, which is most commonly seen, the primary infection often simulates the characteristics of the initial lesion of syphilis during its healing stage, or it may be similar in appearance and symptomatology to sporotrichosis.

I have had no experience with the oculo-glandular, glandular or typhoidal types. The constitutional symptoms of all these types are said to be similar, and the onset and courses of tularemia have been so often described as to need no repetition in a case report.

The main requisites for successful diagnosis are: bearing in mind the prevalence of the disease, the symptoms and definite course, and our ability to confirm the tentative diagnosis of tularemia by the agglutinin reaction.

Tularemia is caused by infection from the bacterium tularense, which is a small, pleomorphic organism, staining well with anilin-gentian-violet, and is Gram negative. It is always advisable to inoculate guinea pigs or rabbits with human tissue and obtain cultures from these animals.

Case Reports

Case I. Mrs. L. H., white, aged 45 years. There was nothing in her previous history to demand consideration. She first noticed a small, indurated, erythematous nodule, with a central vesicle, on her right wrist, which gradually increased in size. Two months ago the nodule was as large as a silver dime, the vesicle had ruptured, and a serous crust had formed in the center of the lesion. These local symptoms were accompanied by swelling of the right epitrochlear and axillary glands, with pain and tenderness on slight pressure. The patient's temperature was negligible, but a general feeling of malaise was present, especially toward evening.

The patient was brought to me February 18th, 1930, at which time a tentative diagnosis of tularemia was made. Examination was made for tularemia, and a Wassermann blood reaction test ordered. I might say here that the reason syphilis was considered was that the general aspect of the lesion resembled a healing chancre. However, the history was negative for both tularemia and syphilitic infection. The clinical symptoms simulated those which may be present in either affection. The Wassermann reaction was negative, and the test for tularemia showed a positive reaction.

The patient stated that she had a number of cats. About December 18th, 1929, she had her butcher dress and prepare a rabbit for a stew which was cooked for two and a half hours. She ate a thigh of the rabbit, but as the primary infection was on the wrist, I think we may disregard this incident. The patient also has a parrot, and a diagnosis of parrot disease had previously been made by her cook who seems to be a student of current events. She said to her mistress: "There ain't no use of you wasting your time going to the doctor; this here is that pisscosis disease." The symptoms of psittacosis being absent, this diagnosis was disregarded.

Case II. A male, white, aged 50 years, came to the skin clinic of the Louisville City Hospital, with an indurated, ulcerated lesion the size of a nickel on the index finger of his right hand, and moderate enlargement of the right epitrochlear and axillary glands. There was a bilateral macular eruption on the arms, and blood for a Wassermann reaction test was taken. A one-plus positive was reported by the laboratory, which practically excluded secondary syphilis.

On re-checking the history more carefully, it was ascertained that the man was employed in a meat market, and one of his duties was the skinning of rabbits. A typical history of the ulcero-glandular type of tularemia was elicited from him, and the agglutination test was positive. It has since been found, from the reports of Dr. Edward Francis, Washington, D. C., that skin eruptions have been noted in about 6 per cent of his cases of tularemia.

We have seen five or six patients with tularemia in the skin clinic of the Louisville City Hospital, in all of whom the subjective and objective symptoms were mild. I report these two cases, not because of their uniqueness but to call attention to the fact that atypical findings may be present in this disease, the course of which is ordinarily typical, and further to bring to your notice the incidence of the disease in Louisville, and the occasional necessity of making a differential diagnosis between tularemia and syphilis.

DISCUSSION

George A. Hendon: I would like to relate a recent experience I have had in connection with the treatment of tularemia. The patient was referred to me by the physician in charge with request that I remove some axillary glands which were suppurating. I made no study of the case so far as the subjective findings and diagnosis were concerned, I merely proceeded to comply with the physician's request and was very much surprised to find the great extent of involvement of the axillary glands. Not only were the superficial glands suppurating, but on dissecting deeper I found that the pathological condition extended downward to the muscles covering the ribs.

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*Read before the Jefferson County Medical Society, March 3rd, 1930.

The patient was a woman 72 years of age, she was very asthenic, and the disease had been in progress for three months. I was informed the next day after operation that she appeared to be in a "rather low state of health!" "She was running smooth but swinging mighty low!" Her temperature was 96° F. The blood count made a day or two before operation showed: erythrocytes 2,630,000, with hemoglobin between 50 and 52 per cent. I do not know what method of hemoglobin estimation was used.

We gave her a blood transfusion by the slow method, using one pint of blood and three pints of a 10 per cent solution of glucose in normal saline. We used citrated blood and it required between eight and ten hours to introduce this amount of solution, four pints in all. This was given by the continuous method of venoclysis. In twenty-four hours she received 4500 c. c. of 10 per cent glucose solution and 500 c. c. of blood.

At the end of twenty-four hours a blood count was made which showed: erythrocytes had increased to 4,420,00, and the hemoglobin had increased to 78 per cent. After the lapse of forty-eight hours the erythrocyte count had increased to 4,600,000, with hemoglobin 82 per cent.

C. Brooks Willmott: I had the pleasure of seeing one of the patients whose case Dr. Young has described. He emphasized in his report the fact that the diagnosis of tularemia is sometimes very obscure. One of the most frequent sources of confusion is the clinical differentiation between tularemia and early syphilis. The same type of macular eruption may be present in both diseases. The primary lesion of tularemia is also often mistaken for a healing chancre.

I thank Dr. Young for his presentation of the subject.

Armand E. Cohen: Tularemia was made a reportable disease in Kentucky in 1926. The cases reported in Kentucky since that date are as folllows:

1927 Jefferson County, 9 Cases; State 13 Cases, total 22.

1928 Jefferson County, 14 Cases; State 15 Cases, total 29.

1929 Jefferson County, 25 Cases; State 7 Cases, total 32.

Unfortunately but a small percentage of the cases occurring in the state are reported.

Dr. C. N. Kavanaugh, of Lexington, probably has observed more cases than anyone in Kentucky. In a recent communication he states that he is preparing an article covering an investigation of 200 proved cases that have occurred in Kentucky in the past three years. In the period from December, 1929 to February 15th, 1930, he saw approximately 50 cases.

I have tried to investigate the cases treated in the hospitals of Louisville in 1929. Altogether there were 19 cases recorded with two deaths. All of these cases were infected from rabbits. Unfortunately a number of cases (9) did not have agglutination tests made.

In the near future I hope to report in greater detail the records of this investigation.

C. H. Harris: You will recall that during the winter of 1928-29 there were quite a number of cases of tularemia reported in Louisville. At that time I sent representatives from the city board of health to inspect all the markets where rabbits were sold. We found hundreds of these animals which had the characteristic lesions of tularemia in the abdominal viscera. They were all condemned and ordered destroyed.

I would not skin or eat a rabbit for five thousand dollars!

William J. Young, (in closing): In my report I purposely omitted any reference to the treatment of tularemia. My impression is that to date the most good may be accomplished by rest on part of the patient. In the few cases of tularemia I have seen, the patients were in a fair state of general health, and the course of the disease was very mild. A relapse sometimes occurs after apparent recovery.

The most interesting feature in the cases reported is that they were atypical, the lesions so closely resembling those of syphilis as to obscure the clinical diagnosis. Investigation of the literature shows that this has been noted by other observers.

The incidence of eruptions, as I said in the paper, is about 6 per cent. These eruptions may be macular, maculo-papular, papular or pustular. A careful history will usually save the clinician from making the error in diagnosis that I almost made in case two.

CLINICAL RECOGNITION AND IMPORTANCE OF THE CARDIAC ARRYTHMIAS*

By H. H. Shook, M. D., Cincinnati, Ohio.

Almost all forms of arrythmia may be recognized without special instruments such as the polygraph or electrocardiograph. A few, however, of clinical significance are not recognizable except by such instruments. These are of infrequent occurrence and recognition helps chiefly in prognosis. Their recognition does not influence treatment in any sense. The use of the electrocardiograph or polygraph enables one to understand the arrythmia better and if he has checked the instrument against what he has seen, felt, or heard. then he is able to recognize clinically all of the cardiac arrythmias without the aid of mechanical means. That the great majority of cases of arrythmia may be accurately diagnosed with nothing more than the stethoscope combined with inspection and palpation of the patient, we shall attempt to show in the following pages.

Arrythmia occurs without disturbance to the circulation. Others produce symptoms and require treatment. In most patients we deal with an arrythmia as a complicating factor in some form of cardiac disease entirely apart from the arrythmia, but the arrythmia constitutes added disability. When arrythmia develops it requires consideration as to whether modifying the treatment is advisable, as compared to when the rhythm was regular.

Sinus Arrythmias

The simplest type of arrythmia is the so-called sinus arrythmia. The sino-auricular node is situated in the wall of the right auricle near the entrance of the superior vena cava. In the normal heart stimuli arise in the node and are distributed to the wall of the heart. This node is the so-called pace-maker of the heart for while stimulus production is one of the five inherent properties of cardiac muscle the rate of stimulus production is more rapid in the sino-auricular node than elsewhere in the heart and the stimuli formed here are transmitted throughout the heart by means of a specialized tissue, the so-called bundle of His.

The common sinus arrythmia is the respiratory arrythmia in which there is a quickening of the heart during inspiration and a slowing during expiration. This irregularity is a physiological one in children and is frequently seen in young adults during forced inspiration and expiration. If the irregularity occurs regularly as described during inspiration and expiration this is sufficient to establish the type of irregularity. As the sino-auricular note is under nervous control it follows that stimulation of the vagi may cause a slowing of the heart and bradycardia. This type of sinus arrythmia is not uncommon in athletes and after acute infectious diseases such as pneumonia, jaundice, and in cases of hypertension. The bradycardia is without especial significance. The pulse is usually between fifty and sixty beats per minute.

Phasic variation is another form of sinus arrythmia. There is a slow and a subsequent quickening of the heart beat spread over ten to fifteen seconds. This disturbance of rhythm may be repeated regularly or it may be repeated from time to time. It is a relatively uncommon type of arrythmia which is commonly, though not invariably, associated with heavy doses of digitalis.

Lastly there is an irregularity of the heart of mild degree which originates in the sino-auricular note in which short and long pauses are mingled indiscriminately. It is seen rather frequently and is usually associated with slowing of the pulse rate. It is observed in healthy children and young adults and is particularly common in patients with rheumatic heart disease during digitalis therapy. This type of arrythmia may resemble auricular fibrillation with a slow pulse rate but it is easily differentiated by the fact that the sinus irregularity tends to disappear when the heart is quickened by exercise, while the arrythmia of auricular fibrillation becomes more pronounced. The arrythmia becomes more pronounced when the heart slows after it has been accellerated by exercise. Sinus arrythmias have little diagnostic significance in themselves other than the possible confusion with other types of arrythmia. MacKenzie has observed that in children during an attack of acute endocarditis this form of arrythmia is present so long as the disease is active. It may therefore be of some prognostic value.

Premature Contractions

Lewis has defined premature contractions as the response of the heart to new and isolated impulses resulting in a contraction which occurs before the anticipated time. The impulse may arise in either the auricle or ventricle (thus auricular or ventricular premature contractions) and there is not a tendency for the premature contraction to repeat itself, at least one normal beat being interposed between the permature beats. In connection with this type of arrythmia it is well to recall two well known physiological laws: first, Bowditch's or the so-called All or None law, i. e., that when the heart contracts as the result of any stimulation it always does so with its maximal force; secondly, the strength of any systole depends upon the length of the previous diastole. Therefore the shorter the diastole, the weaker will be the following systole.

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*Read before the Campbell-Kenton County Medical Society

As there is no gain clinically to determine whether the stimuli that produce premature contractions are of ventricular or auricular origin the following remarks are made to include both. The origin, however, can be determined by either polygraph or electrocardiograph tracing. When the heart contracts premature the contraction may or may not be strong enough to open the aortic valves. If the valves are open a small premature beat can easily be palpated at the wrist, followed by a long pause before the next normal pulse is felt. Auscultation at the heart in such cases reveals two premature sounds corresponding to the premature pulse wave with a long pause before the normal sounds are resumed.

If often happens, however, that the premature beat is not of sufficient force to open the aortic valves. This premature contraction must necessarily follow very close upon the preceding normal beat. Under such circumstances there is heard only one premature sound at the heart and the pulse wave corresponding to this sound is lacking at the wrist. The heart sounds of the normal contraction with the single premature sound form a group of three sounds.

Therefore if every second beat is a premature contraction which fails to open the aortic valves it follows that the pulse rate will be just one-half of the heart rate. This illustrates the importance of counting not only the pulse rate at the wrist but also counting the heart rate at the apex with a stethoscope for counts of the radial pulse should never be relied upon in patients with cardiac disease.

The fact that no other symptom referrable to the cardio vascular system brings so many patients to the physician emphasizes the importance of correctly analyzing the arrythmia. This is especially true in the later age groups in which they most frequently occur All premature contractions are due to a hyper-excitablity of the myocardium, often local. The causes may be divided into extra cardiac and intra cardiac. Emotional disturbances and pressure such as produced by pregnancy, abdominal tumor and gastric flatulency are the most common. extra cardiac causes. These are not serious and when recognized reassurance can be given regarding their harmless nature. Intra cardiac causes may be classed as

1. Degenerative—Those seen in myocardial degeneration.
2. Inflammatory—Those associated with diseases involving the heart muscles in inflammatory processes as acute rheumatic fever.
3. Toxaemia—Those associated with the endogenous myocardial effects of diseases, as malaria and typhoid fever, and the exogenous toxins as tobacco, coffee, and a variety of drugs, notably digitalis, strophanthus, aconite, barium chloride, potassium salts, alcohol, and theophyllin.
4. Exhaustive—Due to a general physical state or a myocardial exhaustion secondary to valve defects of a hypertensive heart disease occuring with effort. These latter are always indications of myocardial disease and deserve careful study.

The most important diagnostic point to bear in mind is that in premature contractions the increasing of the pulse rate to 100 or 120 causes the disappearance of the arrythmia while in auricular fibrillation the arrythmia tends to increase.

Prognosis: The question of prognosis in premature contractions is very important. Unfortunately the layman has come to attach undue importance to them. Furthermore, it is important to understand that the premature contraction constitutes one of the most common type of cardiac arrythmia and that a premature contraction that fails to reach the wrist is the most common cause of intermittent pulse. When premature contractions are considered by themselves. i. e., without reference to the condition with which they may be associated there is no evidence for supposing that they are either indicative of an impaired heart or that they add to the gravity of any existing morbid condition. While it is true that the premature contractions may precede the occurrence of other forms of cardiac arrythmia such as auricular fibrillation it should be borne in mind that these might have arisen independently. The prognosis depends. therefore. entirely upon the casual or associated condition.

Treatment: Our first duty is to reassure the patient. This may be done with the utmost confidence. The etiology of premature contractions should be reviewed, the general health should receive attention. and if cardiac failure be present it should be treated regardless of the presence of the arrythmia. Digitalis and quinidine have little effect on the arrythmia itself. Bromides are beneficial for the associated symptoms, especially where there is irritability of the nervous system or insomnia. In those cases associated with flatulency especially large amounts of gas in the bowels, castor oil in moderate dosage over a considerable period of time seems to act favorably, supposedly by removing the offending toxin from the gastro-intestinal tract. Sodium is also beneficial in the same regard.

HEART BLOCK

In heart block there is either a delay in the vertricular response to the contraction initiated in the auricle or the ventricle fails to respond at all. Normally the stimulus is formed at the sinus node, spreads through the auricles, and thence the impulse is contracted through the auriculo-ventricular bundle (the bundle of His) to the ventricle. Damage to the bundle either delays the impulse or prevents it reaching the ventricle at all (partial block). When no auricular impulse reaches the ventricle complete block exists. The ventricle then beats regularly as the result of stimuli arising within its own walls but since the inherent rate of stimulus production is less than that in the sino-auricular node the pulse rate drops to about thirty beats per minute. The normal time for the transmission of stimuli from the auricle to the ventricle is two-tenths of a second. In the earlier stages of block there is simply a prolongation of this interval. This cannot be detected without either polygraph or electrocardiograph tracing. With a greater degree of block the ventricle fails to respond occasionally to auricular impulse, resulting in a drop beat at the wrist. This is easily differentiated from a drop due to premature contraction by listening at the heart with a stethoscope. In premature contraction a weak first sound is heard due to muscular contraction and the closure of the mitral and tricuspid valves while in heart block no sound is heard which corresponds to the drop beat at the wrist. In cases where the apex beat is easily felt one can differentiate the two conditions by palpation. In premature contraction a weak pulse will be felt while in heart block the impulse is absent. There is usually a quickening of the pulse after the drop beat.

As the degree of block progresses a definite rhythm is set up in which the ventricle fails to respond to every fourth, third, or second auricular contraction, i. e., the 4 to 1, or 3 to 1, or 2 to 1, heart block. The latter causes a halving of the pulse rate such as found with alternate premature contractions, the so-called bigeminal rhythm which premature beat fails to open the aortic valve. Again, auscultation or palpation of the apex beat enables one to differentiated the two conditions readily as indicated above. With complete block the auricle or ventricle beats regularly at different rates. The former, say 76, and the latter 30. It occasionally happens that the sounds produced by the auricular contraction can be heard with the stethoscope or that the pulse in the jugular veins may be visible. Adam Stokes syndrome may be present.

Heart block may occur at any age and is commoner in males. In the earlier years of life it is frequently seen in those whose hearts have been affected by chorea or acute rheumatic fever. It may occur during the course of an acute infectious fever and is often transient. Chronic block is usually due to syphilis or to repeated attacks of rheumatic fever and is usually an evidence of extensive disease of the myocardium. It is worthy of note that the administration of digitalis preparations in toxic doses in young adults may produce a partial heart block and it is said to be due to the action of digitalis on the vagus for atropine relieves it at once. With the earlier grades of heart block the disturbance of rhythm tends to disappear when the pulse rate is increased to 120 beats per minute.

PROGNOSIS: The occurrence of partial heart block during the course of an acute infectious disease is a sign and may be the one sign of beginning myocardial involvement. Persistent heart block of mild degree also is indicative of myocardial damage. With regard to persistent heart block of severe degree there are two questions of importance in considering the prognosis. First, whether there is an involvement of the heart muscle as a whole and whether it is progressive. This question is answered by ascertaining the cardiac response to effort. Secondly, is the patient subject to syncopal attacks and if so, their frequency. Syncopal attacks in heart block are most aggravating during the period of development of complete heart block. When there are no syncopal attacks and no signs of heart failure the patient may live a fairly active life without inconvenience. If they are present the out look is much more grave.

TREATMENT: Syphilis should be looked for in all cases of heart block and if present treated strenuously. When heart block occurs during the course of an acute infectious disease rest in bed is indicated and the cause, such as rheumatism should be adequately treated. If there is evidence of myocardial damage this factor should receive the first attention, recalling that digitalis is contraindicated in cases of partial heart block although in complete heart block it may be used if the usual indications for its administration are present. Unfortunately there is no drug which accellerates the ventricular rate alone where heart block exists and therefore none is effective during an attack of Adam Stokes syndrome. Atropine 1-100 gr. should be given hypo or adrenalin 5 to 15 min of a 1-1000 dilution should be tried.

Auricular Fibrillation

In auricular fibrillation the auricles are dilated and do not contract as a whole. Normal stimulus production at the sinus node is abolished and in its stead a multiple foci of stimuli are formed in the auricle walls. The result is a helter skelter of impulses reaching the ventricle and producing a completely disordered type of arrythmia. Unlike the preceding types of arrythmia this irregularity becomes more pronounced when the pulse rate is increased to 120 beats per minute. This disturbance may occur at any age but is rarely seen before puberty. It is most commonly seen in patients with an existing mitral stenosis and as the result of the disturbance of rhythm the usually characteristic signs in respect to the presystolic murmur is not present. It is noteworthy in passing to comment on the frequency with which this disturbance of rhythm is present in mitral stenosis as compared to its relative infrequency in aortic insufficiency. In the latter the heart may be several times larger and apparently as inefficient yet the rhythm often remains normal to the end. The majority of patients with mitral valvular lesions associated with circulatory failure have auricular fibrillation. In auricular fibrillation many of the ventricular contractions fail to produce pulse waves and those which reach the wrist are very irregular in force and rhythm.

The difference in rate between that heard at the heart and that felt at the wrist is termed the pulse deficit. This is most marked in cases where the rate is rapid. When the pulse rate is slow a pulse deficit may not exist. In such an event the arrythmia may be confused with premature contractions but can be differentiated by the fact that a premature beat does not usually follow a normal one, many irregular beats usually occur in a row, and by the fact that exercise, which tends to increase the rate, causes the irregularity to be more pronounced.

Prognosis: It is always highly important to recognize auricular fibrillation as it is always the sign of serious heart trouble. The prognosis should not be made on the presence of the arrythmia but depends upon the severity of the associated myocarditis. Those having a ventricular rate of normal or thereabouts are by far the most favorable.

Treatment: The treatment of auricular fibrillation resolves itself into two separate and distinct remedies. The mode of action of digitalis and quinidine are entirely different. Digitalis and quinidine are not interchangeable. Improvement through the use of either drug is brought about through entirely different means. Digitalis is the drug par excellence in auricular fibrillation in which there is an associated myocardial failure with dyspnea, edema, rapid pulse with pulse deficit. In such a case quinidine is contra indicated. Quinidine acts by increasing the refractory period of the auricular muscle. Quinidine can never do what digitalis does. It is not a diuretic. It is not a good drug to improve cardiac contractility or to relieve decompensation. It acts by making the heart less responsive to stimuli arising outside of the auriculo ventricular bundle. In the slow type of auricular fibrillation one could use digitalis year in and year out, in large doses or in small doses, and the heart will continue to beat irregularly. Here then we have two wonderful drugs, selective in their action on the heart, not safe to be used together but one preparing the road for the other's success.

There formerly appeared from time to time reports in the literature of the dangers associated with the administration of quinidine but if the cases are properly chosen, refraining from administering the drug to those cases showing signs of cardiac decompensation, and if there are signs fluroscopically that the auricles are contracting fairly actively the drug should be given. All cases should receive small doses at first to test for individual idiosyncracies. The patient must be hospitalized during the treatment. The danger associated with the administration of the drug is that of suddenly throwing embolii into the general circulation from the previous dormant auricles which may contain an organized clot as the result of their previous period of inactivity. If the auricles fluroscopically are seen to be contracting in a fairly active manner it is unlikely that such a clot is therein contained. This, however, seems to be somewhat unduly stressed if the above rules are followed regarding the proper choice of patients for its use. A rare case of ventricular fibrillation associated with the use of quinidine has been reported. Quinidine reacts best of all in those cases of auricular fibrillation following hyperthyroidism. To date I have never had a failure in such cases. In fibrillation from other causes the rhythm is restored to normal in about 50% of all cases.

Auricular Flutter

In auricular flutter the auricles are usually contracting at a phenomenally rapid rate, 200 to 300 beats per minute. The ventricles cannot keep pace with them and therefore a 2 to 1 heart block usually results so that the ventricular rate is usually one-half of the auricular. Lewis states that the usual auricular rates vary between 260 and 320 beats per minute, giving pulse rates of 130 to 160 beats per minute. It is usually impossible to recognize this rare disturbance of cardiac rhythm without an electrocardiograph tracing. According to Lewis a regular and persistent ventricular rate of 130 to 160 beats per minute in an elderly patient is most suspicious. If the tachycardia has persisted for a month or more at one of the stated rates and there is no change in rate with change of posture, resting, or exercises, the condition is most certainly auricular flutter.

PROGNOSIS: The prognosis depends upon the frequency and duration of the attacks, the ventricular rate, whether or not it is complicated with valvular heart disease, the condition of the myocardium, and the results obtained from the administration of digitalis. There is a marked tendency for recurring attacks.

TREATMENT: Digitalis should be pushed to the fullest degree in the treatment of this condition. Quinidine has been used but is not as reliable a therapeutic agent as digitalis. The rhythm in favorable cases changes first to that of a fibrillation and later to a regular rhythm if digitalis is pushed.

PULSUS ALTERNANS

In this condition large pulse waves alternate with smaller waves. There is no disturbance of rhythm but an irregularity of force of the pulse waves. When pronounced it may be readily noted by the palpating finger on the radial pulse. By inflating the blood pressure cuff the alternate large and small pulse waves occur in regular rhythm and are quite distinctive. As the pressure is lowered, first only the sounds produced by the large waves are heard. Suddenly the rate doubles when the pressure is lowered sufficiently to allow sounds produced by the small waves to be heard.

Pulsus alternans may be present physiologically with very rapid heart rates, resulting from exertion or emotion. It is of importance clinically when the rate is normal and is encountered in patients with angina pectoris, hypertension, and serious myocardial disease. It is a sign of extremely bad prognosis. The treatment of course must be directed toward that of the underlying diseased myocardium.

CONCLUSIONS

1. In the great majority of cases of disordered heart action the type of disturbance may be diagnosed without recourse to mechanical means. Careful physical examination alone suffices.

2. The treatment and prognosis depend entirely upon the type of disordered heart action which is present. The importance of accurate diagnosis is apparent since many arrythmias require no treatment.

3. In the treatment of auricular fibrillation both digitalis and quinidine are valuable. The drugs are not interchangeable. Care should be used in the choice of patients for quinidine therapy.

4. Accelleration of the pulse to 120 beats per minute tends to abolish sinus arrythmia, premature contractions, and partial heart block, whereas the irregularity of auricular fibrillation becomes more pronounced with frequent heart action.

ETIOLOGY AND PROPHYLAXIS OF ABORTION*

By W. T. McCONNELL, M. D., Louisville.

Abortion, considered from a medical standpoint, includes all premature discharge of the contents of the pregnant uterus from the time of conception to viability. The causes of abortion may be grouped under four general heads as follows: abnormalities, infections, trauma and toxins. Abortions in the early months of pregnancy are practically always preceded by death of the fetus so that the consideration of this type resolves itself into the discussion of those factors which produce fetal death. In the latter months of pregnancy however, the fetus is often born alive and other causes must be taken into consideration. In many cases there are a combination of circumstances entering into the production of abortion so that more than one of the above named factors play a part.

One of the most usual causes of death of the fetus is from abnormality in fetal development. These abnormalities would, if pregnancy persisted, produce monstrosities; fortunately most of these causes terminate in early abortion. There seems to be no adequate explanation of such conditions. A second form of abnormality is found in the appendages of the fetus such as torsion of the cord, hydramnios, hydatiform or blood moles. Other conditions in this same group are hyprotrophic endometritis, abnormalities of the placenta such as infarcts, hemorrhagic areas of the placenta or the decidua, or strophic conditions of these organs. In these conditions the nutrition of the embryo is interferred with to such an extent that it perishes from lack of oxidation or nutrition. Placenta praevia, premature separation, marginal implantation of the cord are all formidable factors in abortions. These abnormalities usually produce their evil effects in the latter months of pregnancy.

Abnormalities of the uterus are also factors which play an important role; among these may be mentioned the undeveloped uterus, fibroids, uterine displacements and hypersensitiveness of the uterus. In the undeveloped uterus, pregnancy rarely takes place, but when it does the normal uterine hypertrophy is not sufficiently rapid to nourish the fetus and intra-uterine death occurs. Fibroids do not as a rule impair or endanger pregnancy unless by their situation or abnormality of size they rob the placenta of its needed amount of oxygen and nourishment, or unless their location is such that a mechanical interference to fetal development ensues. Uterine displacements usually produce disturbance by causing a poverty of nourishment to the fetus due to a disturbance in the uterine circulation produced by the displacement. In some cases however, where the uterus is firmly adherent in a retroversion the abortion is produced by more mechanical means.

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*Read before Louisville Obstetrical Society in January, 1930.

Some uteri that are apparently otherwise normal are found to be hypersensitive to external stimulation; such a uterus is probably faulty from a developmental standpoint. This condition may be produced by disease of the cervix, endometrium or myometrium, but is sometimes encountered in patients where no such diseased condition can be demonstrated. In a hypersensitiveness due to disease the patient usually aborts at about the same time in each succeeding gestation, but in the type of hypersensitiveness that is not accompanied nor caused by disease, a patient may carry several succeeding pregnancies, each one somewhat longer until finally a living child is the result.

Among the factors causing abortion, infections probably play the greatest role. They may be divided into acute and chronic conditions. In the acute infections may be named typhoid fever, pneumonia and other diseases of this type. The production of abortion in these cases is probably due to the toxin produced by the disease acting upon the fetus in such a way as to cause its death and might be considered under the heading of toxins. In the chronic type of infections, syphilis, nephritis, myocarditis, endometritis and cervicitis are the most frequent causative factors. In syphilis abortion is usually late in pregnancy and is caused by the hypertrophic condition of the placental blood vessels and intravillous spaces, and a resultant diminution in the nourishment of the fetus. In nephritis the toxins of the body are the most likely element of disturbance. In myocarditis improper oxidation of the blood together with toxins would account for the abortion. Endometritis is by far the most frequent cause of early abortion. This may be acute or chronic, the acute type usually being encountered in criminal abortions and the chronic type often having for its ground work a preexisting Niserian infection. The decidua in these cases becomes engourged and hemorrhagic and not only is the nourishment of the fetus impaired but also the toxins produced by this condition militate against its existence.

At the present time we are watching with a great deal of interest the effects of infection due to the bacillus melitensus or the organism causing Malta fever. It is well known that in the porcine and bovine types, abortion is the most outstanding characteristic in animals, but in the human there is not enough data as yet upon which to draw conclusions. Some cases in which the patient was suffering from this disease have terminated in abortion, but whether or not the specific organism was entirely responsible has not been determined.

As to Trauma, the normal pregnant uterus will withstand considerable shock without apparent detriment to the fetus, but where there is a hypersensitiveness such things as jolts, falls or sudden exertion are often sufficient to bring about premature emptying of the uterus. In some cases the hypersensitiveness is so great that digial examination or coitus is sufficient to produce the abortion. In other instances it seems almost impossible to produce abortion by trauma. Many cases go on to full term even after dilatation of the cervix and the injection of foreign substances.

Toxins play a minor role in abortion aside from those encountered in acute or chronic infections. Such agents as lead, gas and similar poisonous materials are sometimes sufficient to terminate pregnancy.

Under the head of toxins might also be mentioned endocrine disturbances. Certain individuals are afflicted with the hyper or hypo secretion of some particular ductless gland. These disturbances, when sufficiently marked to interfere with pregnancy, usually prevent conception. At times however, the endocrine dysfunctions seem to be aggravated by the occurrence of pregnancy and abortion follows. In thyroid disturbances the production of an excess of thyroxin usually prevents pregnancy but if this hypersecretion occurs after conception has become established it may result in premature termination of pregnancy. This is also true of hypersecretion of the pituitary gland. The function of the secretion of the ovaries and especially of the corpus ludium more frequently results in metabolic upsets than in abortion. The interdependence of endocrine functions render it particularly difficult to determine which gland is at fault primarily.

Prophylaxis: The prevention of abortion resolves itself into discovering the etiological factors concerned and correcting them. In the acute infections the principal measures should be directed toward relieving the general condition. In chronic infections our greatest hope lies in preventing subsequent abortions. In syphilis it has been clearly demonstrated that adequate treatment including the arsenicelas gives very happy results. In myocarditis a strengthening of the heart muscle by appropriate remedies and adequate rest produce good results. In chronic nephritis the improvement of the kidney function is essential. In chronic endometritis a currettage may be of great value; in cervicitis and endocervicitis the active treatment of infections of the cervix by electro-cautery or by other form of surgery is indicated. Foci of infection in the tubes should be eliminated, as should any other more remote chronic disease. Where some abnormality exists which is remediable, the procedure is obvious. The removal of fibroids, the replacing of retroversions, the correcting of prolapses etc., can be done in the interval between pregnancies.

The hypersensitive uterus can best be dealt with by removing all sources of irritation. The avoidance of all unnecessary exertion, rest in bed, sedatives and a close watch for signs of threatening abortion will often meet with a successful termination.

When abortion is due to endocrine disorder, in which some one gland is definitely and clearly at fault, benefit may be obtained from ductless gland therapy; unless however, the condition is clear-cut, much harm may be done by experimenting with these powerful agents. The treatment of such conditions is as yet in a more or less experimental stage and no definite rule can be laid down for its application.

The reason for considering the subject of prophylaxis together with etiology should be apparent because intelligent prophylactic measures can only be applied when such causes can be recognized. In a consideration of this subject the writer has not attempted to cover the field in its entirety but has tried to stress the more important features of the subject and cherishes the hope that the corelation of these different phases of abortion will be of some value in the further consideration of this subject.

Eosinophilia on Liver Diet—Meulengracht and Holm report eosinophilia in marked form in all cases of pernicious anemia treated with raw calf's liver in large doses. The eosinophilia usually appeared suddenly after about four weeks' treatment and seemed constant during the use of the raw liver. In cases treated with lightly broiled calf's liver or liver extract the phenomenon was as a rule absent. Control patients with other pathologic conditions reacted similarly to patients with pernicious anemia.

ABORTION*

By G. E. Gaupin, M. D., Louisville.

Is there anyone in the practice of medicine who, when called to attend a case of abortion, does not have an inward feeling that he "wished he had not been called?" If there is, he has either mastered his meaner self, in which case he deserves a tilt of our hats, or he has yet to be initiated into a field of which he is ignorant of what is ahead of him. Most of us have so often changed our views that it is rather difficult to say just what is our final opinion on the various phases of this subject. As there have been so many various and variant views presented in the past, I should have no difficulty in getting at least one or two of you to agree with me.

The term "Abortion" applies to any interruption, whether spontaneous or induced, of the normal course of pregnancy before the child is viable. This is about the period that life or foetal movements begin, about the 26th to 28th week. After this period, the "premature labor" should be applied to those cases terminating before full term. The term "miscarriage" is one for use of the Laity and it is well to use it when we address them. For professional discussion the aforesaid terms are preferable.

There are three kinds of abortion:

1st. Spontaneous or automatic.

2nd. Induced.

3rd. Therapeutic. While therapeutic abortions are induced, the term is used in contra-distinction to illegal ones. This form of abortion will not be considered in this paper.

The etiology of spontaneous abortions is too varied and numerous to consider in detail in one short paper, but it may not be amiss to mention a few of the most common causes.

1st. Uterine disease; Endometritis and Metritis

2nd. Acute infectious disease in the mother

3rd. Syphilis, either maternal or paternal

4th. Trauma (maternal)

5th. Excessive Coitus

6th. Malpositions of uterus, usually 2nd or 3rd Degree Retroversions

7th. Weak sperm cells on the part of the male. This is a much more frequent cause of abortion than we imagine. It may be the cause of continued abortions. Debilitating and chronic disease, excessive coitus, chronic gonorrheal infections of Prostate and Seminal Vesicles causing purulent discharge to be mixed with semen which will carry infection to uterus, are important factors not to be overlooked.

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*Read before the Louisville Obstetrical Society in January, 1930.

We have all had cases of abortion where no traces of the embryo could be found in spite of the most careful search of all expelled particles. The most likely cause here is a weak sperm cell whose generative impulse to the ovum was insufficient to cause embryo formation but decidual formation continued because of blood supply from the uterine wall. Purulent discharge mixed with semen may cause infection of the endometrium which would finally infect the product of conception. The more highly specialized cells of the embryo proper would be less resistant than those of the decidua, hence early death of the embryo with final dissolution. I have had one case where a woman has had three abortions in two years. I have attended her each time and all the preventative measures at my command were used. The woman is very desirous of having a child, as is also her husband. Between the 8th and 10th week each time she aborted. The Wassermann's were negative in both. The aborted mass was all decidua, never was any foetus present. His sperm cells are very inactive and very sparse. Here the foetus dies early and the decidua go on to development but owing to lack of Corpus Lutea formation, the uterus finally treats the mass as a foreign substance and expels it. Neither parent shows evidence of any active disease.

The first symptoms of an impending abortion are hemorrhage or bloody flow, pain or both combined. Either one may precede the other or they may be simultaneous. The more severe the hemorrhage, as a general rule, the more certain is the abortion to continue to completion. There are, of course, exceptions. The more bloody flow, the more the separation of decidua or placenta has taken place, hence the more interference with the nourishment of the foetus. Pain also bears a similar significance; the more severe and the more frequent, the nearer and surer is the case to go to completion. A thick, chocolate colored, mucoid and foul smelling discharge is, in my experience, one that invariably means the death of the foetus and will cause the final evacuation of the uterine contents. In other words, there is little chance of preventing these cases from going to completion. Here again there is always the exceptional case.

When called to attend a case of abortion, the first important factor in determining our procedure is to

1st. Ascertain what period of gestation is present.

2nd. Onset of bloody flow and amount

3rd. Onset of pain, its severity and frequency

4th. Most important of all—whether this is a spontaneous or induced (Instrumental) abortion

Getting patients to admit the truth of instrumentation is many times a very difficult problem. I have found the following line of talk very effectual and have employed it often enough to have memorized it.

"Before I even examine you or determine what to do for you, I want the absolute truth as to whether you have done anything or gone to any one and had something done to cause a miscarriage. If you have done nothing, you need not be offended at this question, but if you have, now is the time to tell me. Your very life later on may depend on your truthfulness now. The reason is, I want to try to prevent you from getting blood poisoning if you have done something. If that sets in, it will be too late to tell me." Such a line of talk usually (but not always) will scare the truth out of them.

Induced abortions are considered as infected and the prognosis and treatment are certainly the opposite of a spontaneous threatened abortion. In induced abortions we can have but little hope to save the foetus because it is either already dead or will die as a result of trauma or infection. "Our cue here is," as Dr. John B. Murphy expressed it, "to see that the uterus is emptied as soon as possible." This phase will be considered later. Let us now consider Automatic or Spontaneous abortions.

Dr. Murphy, in his clinics, again states on this subject. "In impending abortions, without other pelvic conditions, no examination should be made. A dead foetus may lie in the uterus for weeks without sepsis. Infection must be carried up into the uterus to get there. If an abortion is going to take place, your examination will do no good and will not stop it. If it is not going to completion, it may do harm by stimulating uterine contraction." He further states on the question of vaginal examination. "When a patient is once examined and it is found that some of the products of conception are retained, do not stop until that uterus is cleaned out." That the great teacher's views are correct, all of us will likely agree, but that the "no examination" outline is very difficult to *always carry out* most of us will also agree.

The young, newly married woman, having gone 2 or 3 weeks past her menstrual time, begins to flow and have some pain. The first question the husband asks is, "Is my wife pregnant?" You can answer truthfully enough "Very likely" but will that satisfy him without an examination? You can give your reasons for not examining her. Will that stop his further curiosity to know just what is happening? This is just the usual situation in which most of us who are not connected with a big clinic find ourselves. If you don't examine the patient, you are either careless, lazy or ignorant and are promptly discharged and a doctor engaged who will examine the patient. In a big clinic conditions are just the opposite from what they are in a private home. If we could send all our patients to a hospital, the "No examination" outline could be followed without the usual difficulty. In a clinic, there are assistant physicians and nurses always at hand who can watch the progress of the case. If hemorrhage suddenly occurs, it requires but little time to combat it. How different conditions are when you live 5 to 10 miles away from the patient, especially in a rural district, where roads are not all boulevards and where the nearest hospital may be 2 or 3 times as far away. Are you going to go back home or continue your days work without determining whether the case is one of the possible "preventable" or one of the "unavoidable" type, with the products of conception partly protruding through the cervix? Would it not be discouraging to get back home to have the message "come back immediately, the patient has a hemorrhage?" How can you know which case is unavoidable or even incomplete, without an examination? The foetus may be expelled and lie in the vagina undisturbed until you find it on examination. Those who seriously object to a vaginal bimanuel examination may agree on a rectal examination and cervical inspection with a vaginal Bi-Valve speculum. It does not seem that a mere inspection of the cervix, done under careful aseptic and antiseptic conditions, should cause any infection to ascend into the uterine cavity. There can be little argument that this method is the best manner of examinating a patient about to abort. It has advantages over the glove examination as follows:

1st. The cervical canal has not been entered

2nd. It is less painful to the patient

3rd. Less apt to stimulate uterine contractions

4th. Added value of inspection—size of cervical outlet, presentation of any products of conception, amount of bloody flow can easily be determined

5th. Cervix can be sponged off with an antiseptic solution, thereby combating any contamination the speculum may have caused

6th. If the products of conception are presenting through the open cervix, they may be easily removed with a placenta forceps. No anesthesia is necessary

7th. It saves time in many cases. If a glove examination is made and conditions in the last paragraph are found, the speculum must finally be resorted to to complete the removal of uterine contents.

While on this phase of the subject, there are two facts worth mentioning before attempting an examination.

1st. Have some lady attendant, or even the patient herself, if no one else is about, cleanse the vulva with soap and warm water. I prefer to remove as many of the bacteria as possible, in preference to leaving them in site and then dousing them with an antiseptic and expecting them to die immediately. I believe if we could use enough soap and water to actually produce a field that is clean, we would not need the use of antiseptics to the extent that we use them today. Since the vulva in many cases is bathed with a bloody flow, it is here that a fertile culture of bacteria must exist and from this point organisms are carried into the uterus by examinations, etc., when allowed undisturbed. The vagina is given credit for harboring virulent bacteria when possibly in many cases they have been brought there from the vulva.

2nd. Take a flat piece of cotton about 3 by 6 inches, have it soaking wet in a lysol solution and let it cover the vulva, remaning there for at least 3 to 5 minutes. If you carry out the above procedures, use a sterile speculum that is covered with an antiseptic solution (as lysol), any one would have a difficult problem to prove that you actually infected a clean case.

Abortion can again be divided into that occuring before Placenta formation or the 8th week of gestation and those occuring after the placenta formation. Those cases occuring before the 8th week, the ovum is expelled easily while the decidua separate with difficulty. After the 8th week, the placenta plays the great role. It is large, separates with difficulty, especially from the uterine cornea and is usually attended with severe hemorrhage. After the 20th week, the case assumes the aspects of a full term labor.

Again we have another classification: ,

1st. Threatened abortion

2nd. Inevitable abortion

3rd. Incomplete abortion

Threatened Abortion

Bloody discharge, slight pains in pelvis and back similar to menstrual pains, are the first indications. There may be only a sense of weight in the pelvis and no actual pain. With the history of Amenorrhea in the woman of child bearing age and the above symptoms, we are correct in assuming the diagnosis of a threatened abortion in most cases. If induced, they are considered as infected, and the great majority of them will abort, so that there will be little hope of saving the foetus. The more severe and frequent the pains, the more likely is the case to go to completion.

SPONTANEOUS THREATENED ABORTIONS

It is impossible, early in these cases, to prophesy whether they will become arrested or go to completion. If the cervix on examination with a speculum shows no dilatation and not much hemorrhage, the case, if having only slight pains, presents the best feature for "tiding over." The cervix should present no shortening.

Severe hemorrhage makes abortion more inevitable because it represents a rather more extensive separation of Decidua Vera or Placenta which finally may cause foetal death from interference with nutrition. Right here I wish to state, for those of us who find it necessary to do vaginal examination, there are a few points which are of importance. There may be cases where it may be necessary to determine if the case is really one of pregnancy. A speculum examination may not be sufficient to accurately determine this to our complete satisfaction. It cannot tell us the softening and slight enlargement of the body of the uterus like a vaginal bi-manual examination. A rectal examination will often reveal the size and softening of the body of the uterus.

1st. Carry out the cleansing outline as specified before.

2nd. Try to do vaginals *only* very early in the condition, that is, where there is only beginning pains and flow. The reason for this is the cervix will most likely not show very much dilatation at this time and infection will not so likely be carried up into the body of the uterus.

3rd. Use only one finger—it causes less pain and vaginal spasm and is sufficient to tell us all we have to know.

4th. Be very gentle and not hasty—do not exert too much abdominal pressure in outlining the uterus.

COMMENT

I can't recall in 15 years of active practice that I have ever caused any infection in spontaneous abortions or caused an abortion to come to completion by any vaginal I have ever done. I do not advise any vaginal examination when you can get along without it. There are cases occasionally where without this help we are never sure of what underlying conditions may be—ectopic pregnancy is one that no speculum can diagnose.

The treatment of a spontaneous abortion we all know—rest in bed and sedatives spell the whole story—Codein or morphine preferably by hypo or by mouth where they cannot be given otherwise.

INEVITABLE ABORTION

Most induced abortions are of this type—a threatened spontaneous abortion becomes inevitable when the cervix becomes short or obliterated, dilated sufficiently that the foetal products can be seen presenting. Discharge of pieces of decidua is considered proof of its inevitableness. When this takes place, the woman begins to have more severe pains and the bloody flow frequently increases.. A foul smelling, chocolate colored discharge has been, in my experience, a bad omen. Practically all of these have gone on to completion, no matter what stage was present or what sedatives I have used to check them. What cases are considered infected and which ones not actively infected? This is a very difficult question to answer, especially early in abortions. "It is easy enough" as Novak states " to determine whether a case is of the febrile type, but not so easy to decide whether or not it is of the *dangerously* septic type."

Novak places those cases when the temperature is not over 100 to 100.5 in the afebrile class; those above this are considered febrile. The afebrile type, after a day or two, may become the septic type. We have all seen cases have fever and as soon as the foetus is expelled, rapidly fall to normal.

The studies of Hillis and Gordon show rather conclusively that the "conservative treatment" of abortion is far superior to active operative procedures in its results and in a considerable lowering of mortality. Given a case where cervical dilatation is such that, backed by rather severe labor pains and bloody flow, it is determined the case is inevitable, what is the best outline?

1st. Sedatives—a hypo of Codein or Morphine. This seems to relax the cervix and eases the patient's pain. If the patient is in a hospital, "hypos" are preferable. In a home, I give Codein by mouth to follow up the original hypo of morphine.

2nd. Ergot in some form—Ergotin is very good also.

3rd. If patient has a hemorrhage, put in speculum—many times the foetus and appendages are presenting at the cervix and may easily be removed with a placental forceps, which will often stop the hemorrhage. If the entire product of conception comes away, I usually swab out the uterine cavity with Tr. of Iodine on cotton on a uterine dressing forceps. This contracts the uterus, stops the hemorrhage and prevents infection.

If the cervix is not dilated sufficiently to allow its contents to escape, do not pack gauze into the cervix or uterus to stop the bleeding. This will but bring infection into the uterus and block it from getting out. A vaginal pack of gauze, soaked in lysol, against the cervix, may be used where the hemorrhage is severe and the cervical canal not dilated. If the bleeding is not alarming, do not even do this. Give 1-2 c. c. of Obstetrical Pituitrin and ergot by mouth or hypo. This will usually be sufficient to check it and assist the uterus to expel its contents. A vaginal pack may be useful in cases where the hemorrhage has been so severe that the patient is to be removed to a hospital for a blood transfusion or for further active treatment. It will help prevent further hemorrhage while en route to the hospital. A vaginal pack should not be left in longer than when the pain subsides or when the hemorrhage is controlled. It should at best only be very temporary.

The following combination is one which has served me well, especially in home cases of inevitable abortion:

Codein gr. ¼ to ½
Amytol gr. ½
Ergotin gr. ¼ to ½
Pyramidon gr. iv.
Quinine Bi Sulph gr. iss
In each capsule given every 2 hours

This is all I give in a least 7 out of 10 cases. It seems to control hemorrhage, eases the patient, relaxes the cervix and favors the uterus expelling its contents. The patient is instructed to save all the particles expelled, put them in water in some small vessel or jar, so that they will not dry out.

In using a vaginal speculum in a home, it is necessary to either have a flashlight, (I use a 3 cell one which serves the purpose fairly well), or used a head mirror and extension cord light.

When the outline, as specified, fails to control the hemorrhage, it may be necessary to give an anesthetic and currette the uterine cavity. Those cases where the cervix has not dilated sufficiently to allow the entrance of a placental forceps, are the ones that may be difficult to control without dilatation and currettement. If the pregnancy has gone beyond two months it is best to pack gauze tightly around and against the cervix and then give ergot my mouth or hypo. I like ergot better than Pituitrin here because it is not so violent and is more lasting in its effect. If the foetus is as large as a three months' gestation it will be difficult to manually dilate the cervix sufficiently to extract it without severely traumatizing it. To try to clean out a uterus through a small, hard, unyielding cervix is on a par with trying to push a baseball through a key hole. I made this mistake once and the lesson it taught me will never be forgotten. If the hemorrhage is controlled, nature will finally dilate and soften the cervix sufficiently for you to extract the uterine contents with ease and with very little further bleeding. If the cervix will admit a placental forceps, you can clean the uterus out sufficiently (without any anesthesia), to control hemorrhage in most cases. The uterus should not be packed except in extreme cases where the hemorrhage continues after currettement and the patient's condition is very weak. Here any further loss of blood might be detrimental. The pack should not be allowed to remain in longer than 8 to 12 hours, as a general rule.

Incomplete Abortion

The problem here is less simple. Examination of the expelled products may help to a great extent but when the uterus remains large and boggy with a patulous cervix, we are never sure the abortion has been complete. Unless a severe hemorrhage complicates the picture, the best thing to do is "wait." There are two reasons for watching and waiting:

1st. After 48 hours, if placental tissue has remained, it will become detached and the uterus will usually expel it.

2nd. There may be little evidence of sepsis at the time, but after 24 to 48 hours, the picture may have changed decidedly into the septic type.

3rd. If severe or virulent infection is in its beginning, you will stir it up, open uterine sinuses, so that its entry into the Peri metrium and blood stream becomes all the more easy and certain.

4th. After 48 hours, if hemorrhage is continuing more than the usual amount and the patient has only a low grade temperature, you are fairly safe in cleaning out the uterus. Novak states, "In the absence of severe hemorrhage, the expectant treatment should be continued until the temperature becomes normal, which in many cases will be within a day or two, in others a considerably longer time." He takes the position that alarming hemorrhage is practically the only reason for early instrumental interference and broad ligament cellulitis and abscess are often the result of operative treatment.

Conclusions

1st. There are some cases where conditions and circumstances make it necessary to do a vaginal examination.

2nd. The vaginal speculum, if used under conditions as specified, will not be likely to carry any infection into the uterus. It offers us the safest means of doing an examination in cases of abortion and is often of great assistance by its bringing the cervix into view, so that partly expelled conception products can easily be removed.

3rd. Bi-manual examinations should not be made unless there is a special reason. Then only one finger should be used and gentleness ever kept in mind. An antiseptic should bathe the examining gloved finger.

4th. Conservatism is the keynote in handling this condition.

5th. Uncontrollable hemorrhage is the

WOMAN'S AUXILIARY NOTES

THE STATE MEETING

Come to Bowling Green with your husband for the State Meeting, September 12th. Live at the Dormitory of the Western State Teachers College for a few days and renew your youth.

CAMPBELL-KENTON ENTERTAINED

At their home on Glenmary Avenue, Covington, on Saturday, June 14th, Dr. and Mrs. B. K. Menefee entertained the members of the Campbell-Kenton County Medical Society and its Auxiliary together with several visiting physicians and surgeons, accompanied by their wives or sweethearts. A few non-professional friends of the Society also helped to swell the crowd, which numbered one hundred and twenty.

The natural beauty of the home, lawn and private grounds had been enhanced by profuse decorations. The color scheme, red, white and blue, predominated as this was flag day. Flags and bunting fluttered in the breeze on every hand.

The crowd began to arrive at 3 p. m. and the next hour or two was spent most enjoyably in greeting old friends and meeting new ones.

Most of the guests having arrived, the descent of a flight of concrete steps down the terrace in the rear of the lawn transported the gathering from a city home with all modern conveniences to a scene of such rural beauty that all felt themselves miles from the "madding crowd." In fact, these are the justly celebrated picnic grounds of Dr. Menefee, than which none more perfect can be imagined, as they are spacious, level, well shaded and bounded on one side by the lazy Licking River overshadowed by picturesque, white armed, murmuring sycamores.

It is an ideal spot for the games in which all joined until a photographer appeared and demanded that all "look pleasant." Naturally, this was easy under the circumstances.

After being "shot" to the satisfaction of the artist, the group returned up the steps to the lawn in the rear of the Menefee home, where tables had been prepared for all and they were soon devouring a delicious repast of sandwiches, salads, potato chips, apple pie, ice cream, etc., all of which had been provided under the careful supervision of our hostess, who is also the president of the Woman's Auxiliary to the Campbell-Kenton Medical Society and is no less competent in this capacity.

After dinner, and while all remained seated at the tables, Dr. E. W. Northcutt, president of the Campbell-Kenton Medical Society, introduced several speakers, who were much enjoyed by all.

First of these speakers was Dr. C. L. Bonifield, noted surgeon of Cincinnati, who made a great hit with his address "Then and Now." He was followed by Dr. Granville S. Haynes, president of Kentucky State Medical Association, Dr. E. W. Mitchell, Cincinnati; Attorney John J. Howe, Dr. A. T. McCormack, State Health Officer, and Dr. P. E. Blackerby, Assistant State Health Officer, Louisville; Dr. Clarence Betzner, of Cincinnati; Miss Pauline C. Haley, Mrs. P. E. Blackerby, president, Woman's Auxiliary, Kentucky State Medical Association; Mrs. B. K. Menefee, president of Campbell-Kenton Woman's Auxiliary, and others.

Music was furnished during the afternoon and evening by the Grant County Entertainers, who recently won in the Old Fiddlers' Contest conducted by Radio Station WCKY. This feature was much appreciated. After the speaking, this band continued to furnish the music for dancing, which was enjoyed by the young folks—and by some not so young—until a late hour, after which we repaired to our homes, feeling not only that we had "come to the end of a perfect day," but that we had also discovered the perfect host and hostess in the persons of Dr. and Mrs. B. K. Menefee.

"May their shadows never grow less."

MRS. C. A. MENEFEE.

AT THE A. M. A.

The eighth annual session of the Woman's Auxiliary, American Medical Association, was held in Detroit, June 23-26. Much active interest was manifested by the reports of the 85 delegates and by the other 328 members present at all of the meetings.

These meetings were held at the Tuller Hotel with the exception of the pre-convention Board meeting, which met at the Statler Hotel, the President, Mrs. Geo. H. Hoxie, Kansas City, Mo., presiding. Following the installation of the 1930-1931 President, Mrs. J. Newton Hunsberger, Morristown, Pa., a post-convention Board meeting and Round Table Conference was held at the Tuller Hotel, Mrs. Hunsberger, presiding.

Registered from Kentucky were: Mrs. M. C. Baker, Mrs. C. W. Blake, Mrs. Harry Davidson, Mrs. G. A. Hendon, all from Louisville; Mrs. E. B. Houston, Murray; Mrs. H. M. Meredith, Scottsville; Mrs. A. T. McCormack, Louisville.

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only reason for early currettage.

6th. Foetal products should be gently removed when they present themselves at the patulous cervix.

7th. Currettage may safely be done after the fever has gone. Its real indication is in complete abortion, where after the 3rd day the uterus has not emptied itself and for a prolonged menorrhagia.

8th. Spontaneous abortions., without definie cause, require careful physical, sexual and blood examinations to determine their cause. This should *especially* be done when a woman has had more than one such abortion.

Outstanding reports were made by Chairmen of several committees. Among these, the educational value of the Study Courses prepared by the Program Committee, of which Mrs. E. V. DePew, San Antonio, is chairman, brought out much favorable comment. Special mention was frequently made of the Study Course in Medical and Health Laws, prepared by the Kentucky Auxiliary and recently published in "The Club Woman," the official organ of the State Federated Clubs.

Dr. Charles H. Mayo, in his address to the Auxiliary at the Annual Luncheon, emphasized the need for a better understanding, by the physician's wives, of the aims of the profession, together with its methods of practice, in order that they may helpfully interpret the work of the doctors to their friends and guide the development of health programs in their Clubs and Church organizations. Dr. Mayo told, interestingly, of some of his experiences as Health Officer for Rochester, Minnesota, and urged the women to study and promote public health programs in their own communities.

The Press and Publicity Committee showed remarkable interest on the part of the Editors of State Medical Journals, as reported by the Chairman, Mrs. J. W. Blake, Hopkins, Minnesota. Eighteen State Medical Journals now carry Woman's Auxiliary notes. The three Journals giving most space to the Auxiliary are in order, Georgia, California, Kentucky.

The Treasurer reported a bank balance of $1,687.17 at the Pre-Convention Board meeting and the Finance Committee presented a well developed budget for the ensuing year, which was enthusiastically adopted. The foresight, judgment and business like methods of the last two administrations have developed a systematic and fundamentally sound foundation for our National organization with its more than 10,000 paid-up members in 37 States. (There is a listed membership of over 12,000.) Of this splendid achievement in the first eight years of the organization, we may all take great pride and congratulate every woman, who has held office in this National organization on the success attained through her fidelity to duty. We in Kentucky, may take a special pride in the fact that Mrs. Irvin Abell acted as Treasurer from 1925-1929, four of the growing, formative years.

Valuable reference material to take home from the meeting, contained in large, heavy Manilla envelopes, was provided by Mrs. George H. Hoxie. This was available to all. Signed receipts for each envelope were required. The demand soon exceeded the supply. However, signed requests for this material were left with the Secretary. Anyone who desires this helpful, instructive material or the minutes of the Detroit meeting or any of the reports made at that meeting, may obtain them by writing a note to the Corresponding Secretary, Mrs. H. C. Podall, Morristown, Penn.

The President-Elect, this year, many Kentuckians will be interested to know, is Mrs. A. B. McGlothlan, St. Joseph, Missouri, the faithful successful chairman of Hygeia for the past five years. Mrs. McGlothlan's election is a well earned honor.

Following is the list of officers elected for the year 1930-1931.

President—Mrs. J. Newton Hunsberger, Morristown, Pa.

President-Elect—Mrs. A. B. McGlothlan, St. Joseph, Mo.

Vice-Presidents—Mrs. Southgate Leigh, Norfolk, Va.; Mrs. James W. Blake, Hopkins, Minn.; Mrs. C. W. Garrison, Little Rock, Ark.; Mrs. James F. Percy, Los Angeles, Calif..

Treasurer—Mrs. Fred L. Adair, Chicago, Ill., (re-elected.)

Recording Secretary—Mrs. A. T. McCormack, Louisville, Ky. (re-elected).

Corresponding Secretary—Mrs. H. C. Podall, Morristown, Pa.

Directors for one year—Mrs. Geo. H. Hoxie, Kansas City, Mo.; Mrs. Allen H. Bunce, Atlanta, Ga.; Mrs. Chas E. Sears, Portland, Ore.; Mrs. G. Henry Mundt, Chicago, Ill.

Directors for two years—Mrs. Basil L. Connelly, Detroit, Mich.; Mrs. Ephraim R. Mulford, Burlington, N. J.; Mrs. Frank W. Cregor, Indianapolis, Ind.

Historian—Mrs. S. C. Red, Houston, Texas.

The entertainment and social program provided wide variety including tea parties, boat rides, sightseeing trips, theatre party, health programs of interpretative dancing held in the beautiful auditorium of the New Art Museum. Outstanding, perhaps, was the Annual Dinner of the Medical War Veterans, held at the Book-Cadillac Hotel at which Dr. Aristdes Agramonte, of Cuba, the sole surviving member of the famous Yellow Fever Trio—Carroll, Reed, Agramonte—told the dramatic story of the discovery that mosquitoes carry Yellow Fever. To this dinner, for the first time, the wives of the Medical Veterans were invited and two members of the Auxiliary from Indianapolis, Mrs. H. W. Chappell, formerly Metropolitan soprano, accompanied by Mrs. F. W. Cregor, furnished delightful musical numbers. Another unusual occasion was the gracious reception of Mrs. Henry Ford in her glorious rose garden at her home in Dearborn. Concluding the festivities was the President's Ball, held at the Statler Hotel.

Although one of the smallest in numbers of our National Conferences (but about half as many doctors and fewer wives attended this year) the Detroit meeting was, perhaps, the most interesting and the most constructive of all our Auxiliary gatherings.

Next year, the American Medical Association, and its Auxiliary, will meet in Philadelphia.

MRS. A. T. M'CORMACK

Kentucky Medical Journal
Published Monthly By
THE KENTUCKY MEDICAL JOURNAL
Incorporated

Entered as second class matter October 22 1906, at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price $5.00
Edited Under Supervision of the Council

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COUNTY SOCIETY REPORTS

Bourbon—The Bourbon County Medical Society, held its regular monthly meeting at the residence of Dr. G. G. Daugherty on May 22nd. The meeting was called to order at 8:00 P. M.

The following members were present. Drs. W. C. Ussery, J. C. Hart, J. T. Van Sant, H. M. Boxley, L. Oberdorfer, J. A. Orr, W. G. Dailey, C. G. Daugherty, H. M. Miller and M. J. Stern.

Visitors present: Drs. Cole and Browne, of Winchester, Drs. Reese and McDowell of Cynthiana, and Drs. Croley and Townsend, Paris.

Dr. C. G. Daugherty introduced Dr. W. C. Ussery, the speaker of the evening, who made a most interesting talk on some of his experiences in Europe,, the Near East, including the Holy Land.

The members and guests were then served with refreshments.

Meeting adjourned.

MILTON J. STERN, Secretary.

Carlisle: The Carlisle County Medical Society met June 7th at Cunningham in the high school building.

Edward Flynn, of Paducah, delivered the welcome address. Mrs. H. W. Sterling played a violin solo accompanied by Miss Louise Graves at the piano.

Papers were read by Dr. Will Fuller and Dr. H. W. Sterling.

Those who attended were Dr. T. J. Marshall, Dr. Frank Boyd, Dr. Errett Pace, Dr. E. B. Willingham, and Dr. Vernon Pace, of Paducah; Dr. H. A. Gilliam and Dr. Will Fuller, of Mayfield; Dr. R. T. Hocker and Dr. J. F. Dunn, of Arlington; Dr. G. W. Payne, Dr. E. E. Smith and Dr. H. W. Sterling, of Bardwell.

At the conclusion of the meeting a banquet was served.

NEWS ITEM

Dr. R. Glenn Spurling and Dr. Franklin Jelsma, announce their association in partnership; located at 402-404 Brown Building, Louisville, Ky. Office Hours 1 to 3 P. M. daily, and by appointment. Practice limited to Neurological Surgery. Telephone—City 2167.

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ANNUAL NUMBER

KENTUCKY MEDICAL JOURNAL

THE N.Y. ACADEMY OF MEDICINE
SEP -3 1930
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Being the Journal of the Kentucky State Medical Association
Published Monthly under Supervision of the Council
Editorial and Business Office, Corner State and Twelfth Streets. Subscription Price, $5.00 Single Copy, 50 cents
Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 8, 1917, authorized May 25, 1920.

VOL. XXVIII. BOWLING GREEN, KY., SEPTEMBER, 1930 No. 9

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GRAHAM'S "SURGICAL DIAGNOSIS"

"The diagnosis of conditions demanding surgery is one of the most serious problems in the practice of medicine. * * * There is hardly one of the major medical complaints which may not in time demand surgical consideration. * * * * This work will be found exceedingly practical because of its excellent arrangement, its extensive index, and its consideration of problems as they occur constantly in the field. Throughout the book theory is avoided and the emphasis is placed on actual observations at the bedside and in the operating room."

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New Seasoning

THE OLD PROVERB SAYS, "Hunger is a good sauce." But what is to be done when there is no appetite or hunger for the foods we should eat?

There is no seasoning more unusual than a combination of sugar and salt in giving familiar foods a new and appetizing flavor. Just taste a pinch of salt and a dash of sugar mixed together and you'll realize what a full-bodied goodness they make.

Then, try such a mixture of salt and sugar in cooking vegetables. In peas, tomatoes, carrots, spinach and cabbage, a level teaspoonful is enough, but suit your taste. Put it in soups, stews, or cereals as they cook. You'll be surprised to learn that the sugar not only blends deliciously with the flavor of the dish, but emphasizes it.

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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. XXVIII. BOWLING GREEN, KY., SEPTEMBER 1930 No. 9

EDITORIALS

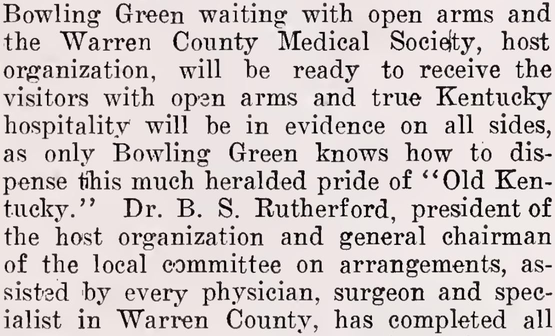
BEAUTIFUL BOWLING GREEN PREPARES FOR MEDICOS.

By JOHN M. NELSON, Manager, Bowling Green Board of Trade

Nesting on the top of a beautiful, rich plateau, surrounded on all sides by a chain of hills, rolling and winding themselves shelteringly about a beautiful little city, lies Bowling Green, "The Gateway to Mammoth Cave" and to this picturesque and prosperous little city will journey members of the medical profession from all sections of Kentucky on September 16, 17 and 18 for the annual gathering of the Kentucky Medical Society.

Whether it be by train, automobile or airplane, members of the profession will find Bowling Green waiting with open arms and the Warren County Medical Society, host organization, will be ready to receive the visitors with open arms and true Kentucky hospitality will be in evidence on all sides, as only Bowling Green knows how to dispense this much heralded pride of "Old Kentucky." Dr. B. S. Rutherford, president of the host organization and general chairman of the local committee on arrangements, assisted by every physician, surgeon and specialist in Warren County, has completed all arrangements and the convention this year will lack for nothing to make it both the most successful, prosperous, beneficial and yet enjoyable the organization has ever held.

A Campus Scene Near West Hall



Aeroplane View of Teachers College

Beautiful "College Heights" as the grounds of the Western Kentucky Teachers College are known, will be the scene of the convention this year and in the Little Theater in the Library Building will be held all scientific sessions while the public sessions will be in Van Meter Hall, main auditorium of the institution. West Hall and Potter Hall will be used to house the overflow from the Helm and the Mansard hotels and thus about "College Heights" will center the main activities and a more appropriate spot could not have been selected. From "College Heights" one finds the most beautiful and picturesque view of Kentucky and its makeup, that can be found anywhere and the scene from there is one that is never forgotten.

Just at this time "College Heights" is seeing a new building erected on its brow and it is one in which the medical profession will take much interest as it is the "Health Building" or one intended for physical education and health building in its truest word. Nothing more appropriate could be found than this.

BOWLING GREEN "THE BEAUTIFUL"

Well has the city of Bowling Green been called "The Beautiful." Just as a dimple on the cheek of of a beautiful woman goes to set off and enhance her facial beauty, so does Bowling Green serve as a dimple on the face of beautiful Kentucky. Here, amid an atmosphere that is indescribable, one find a city of beauty and culture, modern in every respect, yet clinging with tenacity to the spirit of Kentucky of the past, and mingling the two together in an atmosphere that charms and holds the visitor. One has

Attractive Scene on Barren River

truly said that a really great city has an intangible, invisible something about it that goes to make a city great. So does Bowling Green, with its 18,000 inhabitants and 6,000 non-resident students, hold the interest of the visitor within its portals and one is a stranger there but once, when he alights from the train or his auto, for in a few moments he or she feels at home.

The physical makeup of Bowling Green is one that any city might be truly proud, even one many times the size of Bowling Green. Its twenty-six miles of city streets are paved with asphalt. Its stores and places of business are up-to-date, fresh and attractive. Its industries are varied and successful. Its homes, residences and apartments are well kept and beautified. Its financial condition is unusually strong. Its surrounding section is rich and fertile and its farmers and stock raisers are prosperous and enjoy life to the fullest. Its people are friendly and happy, seeking to make of their own little city "Not the largest, but the best city in the world."

Bowling Green is located on the main line of the Louisville & Nashville Railway, 114 miles from Louisville and 72 miles from Nashville. It is also the junction point for the Memphis Division of this road. The city also is a tourist center of much importance, the beautiful Dixie Highway or U. S. 31-W, 123 miles south of Louisville and 67 miles north of Nashville. It is also on the famous old Louisville & Nashville Turnpike, the "Route Beautiful to Mammoth Cave"; the Jefferson Davis Highway and has connections with the Andrew Jackson Highway at both Scottsville and Glasgow. Bowling Green is the hub of a network of highways leading to all surrounding county seats and is the distribution center of travel for all these routes. The city is the head of navigation on Barren River, packets making regular scheduled trips between Bowling Green and Evansville on the deepest channel small river in the country, one winding and magnificent for its beauty and charms.

Stadium at Western Teachers College

A Street Scene From Teachers College

Educational Center

The city is one of the most important educational centers of the country. The magnificent Western Kentucky State Teachers College is recognized as one of the leading such institutions of the South. It is the outgrowth of several of the most noted institutions of learning that in other days were known far and near. Ogden College was the last of these institutions to merge with the present school in 1928. It was really established in 1906 and since that time its growth has been marvelous and a testimonial to the man who has and is still heading the institution, Dr. H. H. Cherry. The school now has fourteen buildings on its magnificent campus, valued

Library Building, Western Teachers College

Library Building, Western Kentucky Teachers College, Bowling Green, Ky., where scientific session of Kentucky Medical Society's sessions will be held. This is one of the beautiful Teachers College group of buildings on Normal Heights.

at more than $2,500,000 and is constantly being enlarged as it outgrows its quarters and additional facilities are necessary in order that it may carry out its work. During 1928-29 term its enrollment proper was 3,759, with an additional 1,600 students taking correspondence courses, 800 in the extension school and 425 in the training school.

The Bowling Green Business University, the largest business training school in the South and second largest in the United States, was founded in 1874 and has continued steadily to grow and prosper until today its average enrollment for each year is 1,500 students, coming from thirty states and several foreign countries and physical assets of $125,000 represented in its properties. The length of its terms vary according to the requirements of the student as it has a curriculum of the College of Commerce including subjects which are cultural, professional and vocational in character. This school has a two-year junior college course, in addition to its regular business, secretarial and commercial training courses. It is in reality an accredited four year A Grade college in the field of business. It has its own plant and equipment and ranks as one of the greatest such institutions of the world.

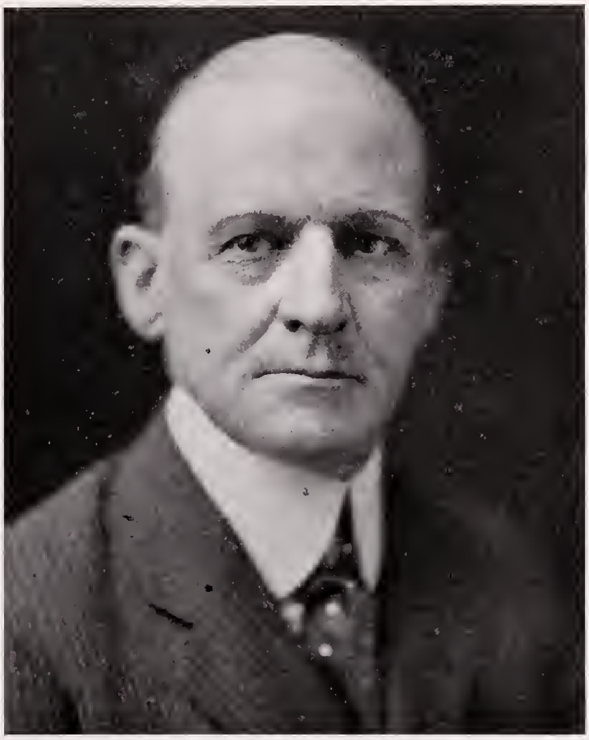
The city of Bowling Green proper has an educational system that is thorough and complete in every respect. This embraces a system of three white and one colored elementary schools, one white and one colored high school and one white junior high school. Each of these institutions is quartered in its own building of the most modern design and type and the city employs 58 white and 13 colored teachers to man these institutions. The city has one of the finest high school buildings in Kentucky and its junior high school is equally as splendid. The valuation of the city school property is $452,500.

Early History

The early history of Bowling Green has its bearings on almost the entire middle south section of the United States. Records reveal that the early settlements in this section of the country were started at Harrodsburg in 1774 and that Daniel Boone began the erection of his fort at Boonesboro in 1775, while James Robertson journeyed through this section in 1778 on his way further South to settle Nashville and begin the development of Middle Tennessee. It was through this territory that the old Trace Road wended its way from Harrodsburgh and "The Kentucky Settlements" to Nashborough as Nashville was then known. The territory where Bowling Green now stands was known as "The Barrens" and in this territory was located a big spring and in the early part of the decade of 1790 one Robert Moore builded a cabin home. Slowly this cabin began to become the center of a new civilization.

We are told in a very interesting account of the founding of Bowling Green, written several years ago by Hon. John B. Rodes,

Spacious and Beautiful Reception Room of West Hall, Headquarters Woman's Auxiliary



H. H. Cherry, President
Western Teachers College

now mayor of Bowling Green, that the real birthday of Bowling Green may be said to be January 2, 1798, when Robert Moore, in open court, moved the establishment of a town around a public square, the erection of a court house, a jail and other public buildings. This order specifies that the village should be known as "Bolin Green."

It is supposed, according to Mayor Rodes, history of the city, that the name "Bolin Green" grew out of the fact that Robert Moore had what in those days was termed "a ball alley" or a bowling alley and that when weather permitted this game was often enjoyed on the greens by the pioneers. Probably this "ball alley" drew the early settlers and gave them diversion and for that reason the place became known as "Bolin Green" until its name was changed to Bolling Green.

Warren County, of which Bowling Green is the seat, was originally a part of Logan County. It was in April 1797 that the justices of the peace for this new county met at Robert Moore's and the county court of Warren County was organized. It was decided that they should meet here on the first Monday in each month to transact the county's business. The county was named in honor of General Joseph Warren, the hero of Bunker Hill.

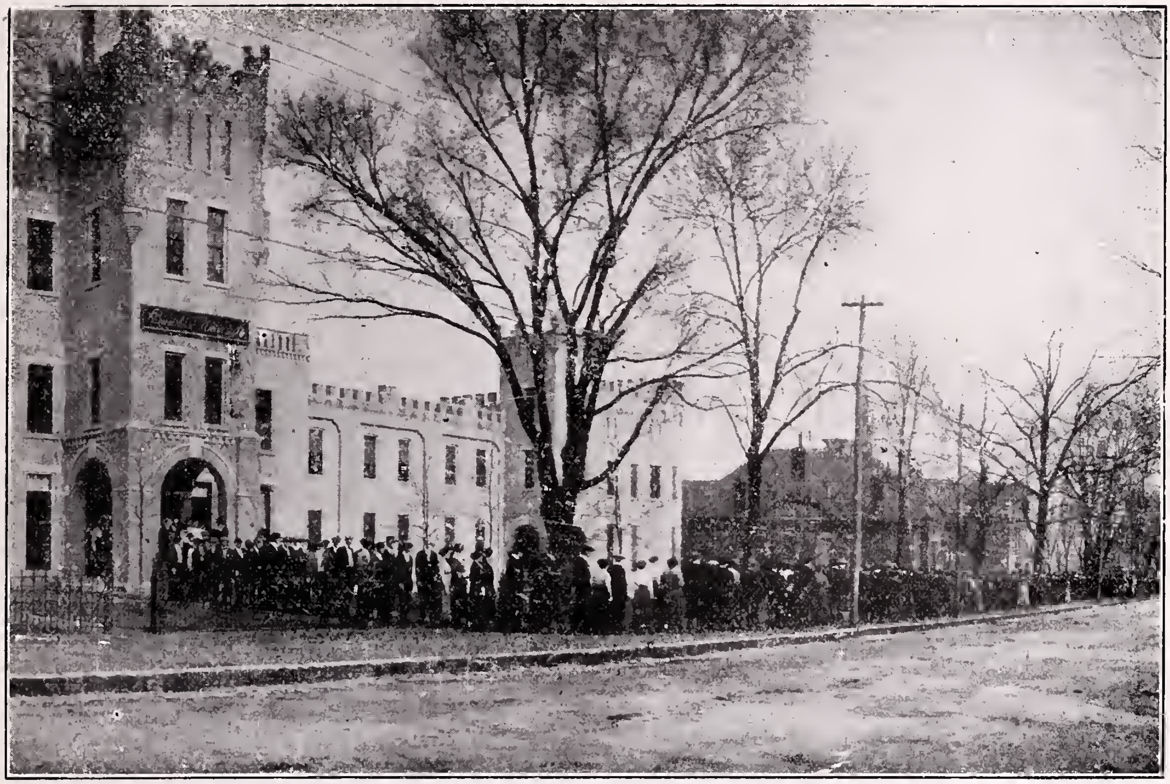
Today Warren County is recognized as one of the wealthiest and most important of the counties of Kentucky. It has an area of 339,200 acres, of which 90.3 per cent was in farming lands in 1925 when the last official government figures were issued, the 1930 figures not having been announced as yet. It lies almost entirely in the so-called limestone region and is generally level in the central and southern portion and slightly rolling and hilly in the northern. The soil is rich and productive and one of the best in the state.

This same limestone has been turned into one of Bowling Green's most widely known products, the famous Bowling Green Stone that is recognized as one of the greatest building materials of the country. It is mined but a short distance from the city of Bowling Green, made into stone for building purposes, a stone that grows whiter with age and holds its own with any in the country and it is one of the greatest assets of this section.

Tobacco and its products are forming, and have for years, one of the most valuable agricultural products of Warren County. The advent of burley into this section has been one of the most successful farming ventures the Warren County farmers have ever under taken and they are reaping the reward of their efforts. This is true of all agricultural products when properly raised in this county and for that reason this is known as one of Kentucky's greatest and most prosperous counties.

West Hall, Western Teachers College, Where Physicians Will Live During the Meeting

Ogden College



Scene on College Street in Front of Bowling Green Business University

Another View of the Bowling Green Business University

In the past few years dairying has become a most lucrative industry for the farmers of Warren County. The establishment here of a plant by the Pet Milk Company has proven a tremendous incentive to the farmers to add to their herds and in all sections of the county splendid herds of Jerseys, Holsteins and Herefords are to be found. This is returning a monthly cash basis to the farmers and has proven one of the greatest boons the farmers of the section have had in many years.

All Bowling Green is joining in the plans for entertaining the Medical Society and no dull moments will be allowed during the time the doctors are in the city. A number of entertainment features are being planned by Dr. Rutherford, Dr. John H. Blackburn and the members of their committtees. For the ladies, a committee headed by Mrs. John H. Blackburn, president of the Warren County Woman's Auxiliary, is planning a number of social features and an urgent invitation to all doctors to bring their wives and daughters with them. is extended, for they will not find time hanging heavy on their hands during their stay in Bowling Green. This city has the unique distinction of contributing more officers to the American Medical Association than any other city in America. Dr. J. N. McCormack, Chairman of Organization, Dr. E. N. Hall and Dr. Lillian H. South, Vice-Presidents; Dr. J. H. Blackburn, Chairman of Post Graduate Study Course and Dr. W. A. Atchison, Secretary.

GUESTS OF HONOR

At the suggestion of Doctor D. M. Griffith the Council issues this general invitation to all physicians in the state seventy-five years of age, or over, to be the guests of the State Association at the Bowing Green session.

They will be provided with rooms and meals at the expense of the Association. A special table will be set aside for them and Doctor Griffith will be the head waiter for this table, and will be assisted by appointed waiters each day.

A stenographer will be assigned especially to the group to get their reminiscences of the earlier days of the medical practice in Kentucky so that they can be preserved for the archives of the Association and used in the preparation of the medical history which will be begun when the Auxiliary has assembled the material, which it is undertaking to do.

Main Building, Bowling Green Business University

ANOTHER KENTUCKY DOCTOR HONORED

At the recent meeting of the American Association for the Study of Goiter at Seattle, Washington, Doctor William F. Rienoff, Jr., of Johns Hopkins University, Baltimore, Maryland, received the annual award of $300 for the best essay dealing with the goiter problem. Doctors O. P. Kimball, of Cleveland, Ohio, and E. P. and D. R. McCullagh, Cleveland Clinic Foundation, Cleveland, Ohio, and Robert P. Ball, of the University of Louisville, received honorable mention. Dr. Ball is a native of Harlan County, and has been for a number of years connected with the Surgical and Pathological Department of the University of Louisville. At present, Dr. Ball is devoting his entire time to Surgery and Pathology in Harlan.

OPHTHALMOLOGY AT THE A. M. A. MEETING AT DETROIT

The section on Ophthalmology which has always been one of the most active units of the American Medical Association again came up to its usual standard at the Detroit meeting, from a standpoint of efficiency of the papers presented as well as from the standpoint of attendance, over three hundred oculists having registered. Every announced paper was read by its author and discussions of unusual merit enlivened the meetings. Dr. T. B. Holloway who presided, completed each day's program on scheduled time.

The two subjects which seemed to have created most interest and elicited most active discussions were the Tuberculous diseases of the eye and Trachoma. Whenever the subject of tonsil surgery is introduced before a body of laryngologists an endless discussion is created. The same is true whenever the subject of Trachoma is brought before a group of oculists. Ever since Noguchi isolated a Gram negative bacterium from individuals suffering with trachoma (which he called bacterium granulosis) with which he was able to produce a condition similar to human trachoma in monkeys the etiology of trachoma has again become a subject of live interest. Noguchi's findings were not fully corroborated by Lindner of Vienna who was sent to this country to follow up the studies of Noguchi made among the American Indians. Lindner was wont to discredit the relation between the bacillus granulosis and trachoma.

Since Noguchi's experimental study Dr. Wm. Finoff and Dr. Phillips Thygeson, of Denver have done some painstaking and extensive laboratory work in an endeavor to add to our knowledge of the etiology of trachoma. They were able to isolate a bacillus in cases of trachoma occuring in white persons, Indians, and in one Japanese coinciding morphologically and having the same cultural characteristic as the bacillus isolated by the famous Japanese bacteriologist. The microorganism could not be isolated from other forms of conjunctivitis. Injections of the organism into the subconjunctival tissue in monkeys were followed by pathological changes identical to trachoma as it is seen in humans as was illustrated in live monkeys exhibited by the authors at the Detroit meeting.

Finoff and Thygeson were able to obtain in pure culture the bacterium from the conjunctiva after the disease was well established in monkeys. While these experiments seem conclusive, Finoff frankly pointed out the fact that trachoma in monkeys and that occuring in humans differs somewhat, hence a positive relation between trachoma and the bacillus isolated by Noguchi cannot be proven until human inoculations are made possible.

A sanguine note of hope that we are near the solution of the problem of the cause of trachoma was expressed by those taking part in the discussion and Drs. Finoff and Thygeson were encouraged to continue in their very valuable research work.

The section devoted considerable time to the discussion of the invasion of the tubercle bacillus of the eye—more especially of the uveal tract. While there are yet many sceptics regarding the etiological relation between the tubercle bacillus and the obscure diseases of the middle coat of the eye, the impression is growing that many of those cases which have been attributed to lues, to focal infection, etc. are directly the result of the invasion of the Koch bacillus of the vascular coat of the eyes.

An interesting survey was made by Michael Goldenburg, of Chicago of the Municipal Tuberculosis Hospital of Chicago in an endeavor to ascertain the incidence of tuberculosis of the eye in the tuberculous patient. In 914 proven cases of tuberculosis subjected to fundus examination, involvement of the choroid and retina was disclosed 78 times. Nineteen of them were considered tubercular. Goldenburg believes that a true tuberculous lesion of the intraocular tissue is the result of an implantation of the tubercle bacillus through the medium of the blood stream.

ADOLPH O. PFINGST.

THE BOWLING GREEN MEETING

Arrangements are practically complete for the interesting annual session of the Kentucky State Medical Association at the Western Kentucky State Teachers College at Bowling Green.

Rooms in the dormitories at the Institution will cost $1.50 per day. Meal tickets will be on sale at the splendid college cafeteria at $2.00 per day for the entire session and for those who are not there throughout the meeting, breakfast will cost 50c, luncheon 75c and dinner $1.00.

Dr. J. H. Blackburn, of Bowling Green, is Chairman of the Reservation Committee and members may write him for their reservations. Those who desire may secure accommodations at the hotels.

Remembering our happy experiences at the Eastern Kentucky Teachers College at Richmond, we believe that most of the members will want to be housed and fed at the Institution, where all the meetings will be held. These reasonable rates will be particularly acceptable this year because of the depressed financial condition of the whole state.

Many of the members will drive to Bowling Green and there will be ample space for parking of cars on the college grounds.

In this issue we are publishing in full the usual financial statement and we trust the members, who are the owners of the Association, will read these carefully and critically.

The Administration Building of the Western Teachers College

W. B. McClure

PRESIDENT KENTUCKY STATE MEDICAL ASSOCIATION, 1930

PPLEMENT TO KENTUCKY MEDICAL JOURNAL, SEPTEMBER, 1930

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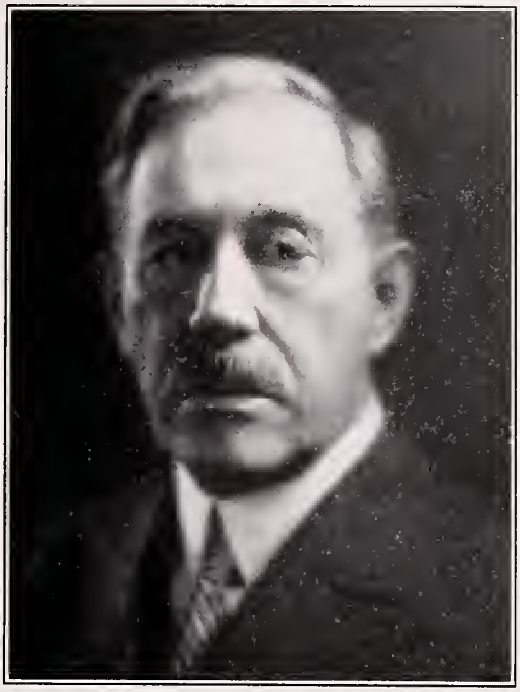

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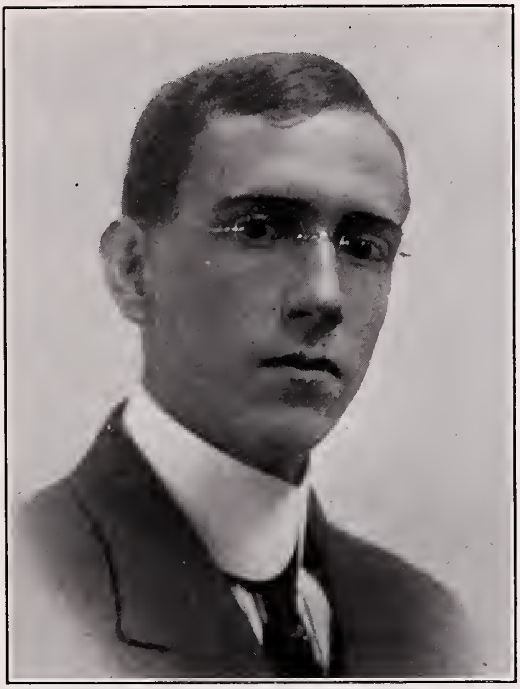

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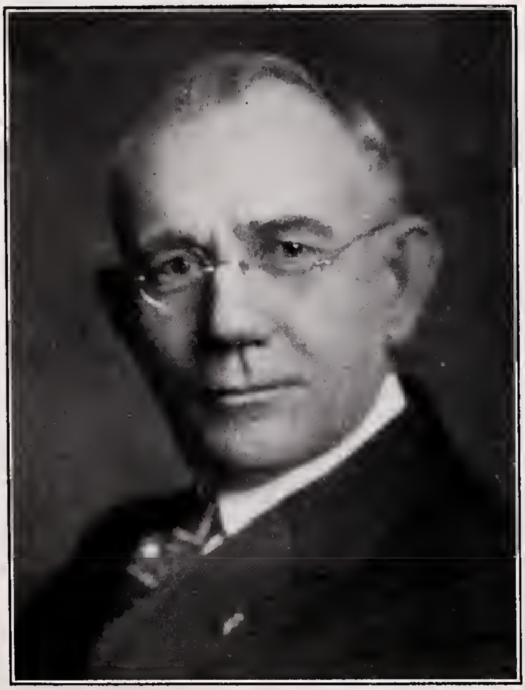

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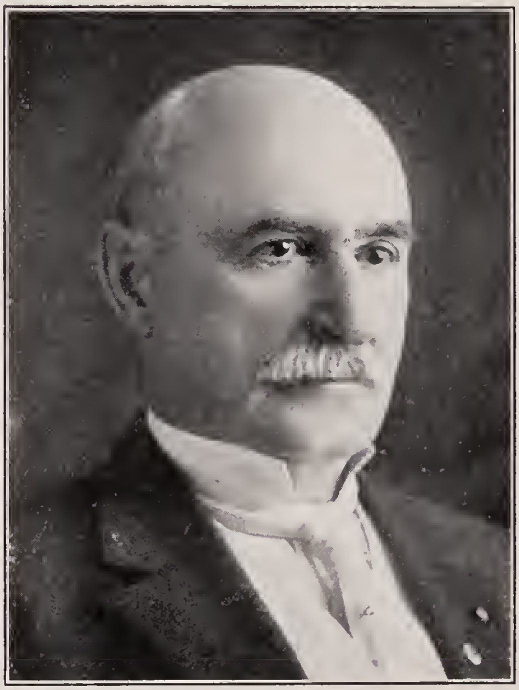

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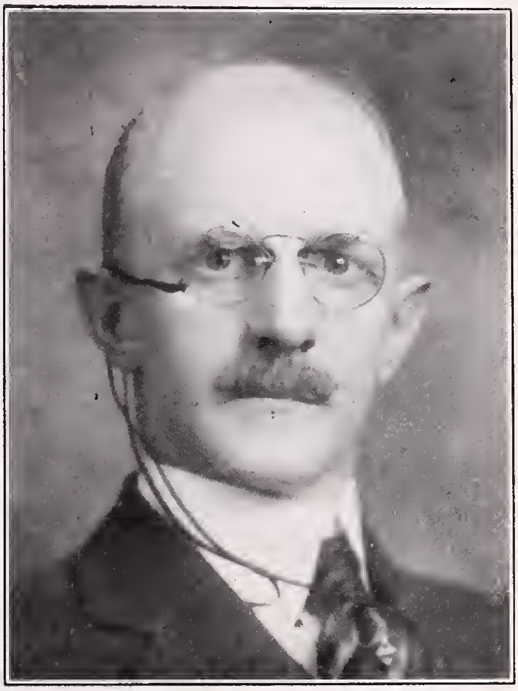

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Anesthetics

OFFICIAL ANNOUNCEMENTS

PRELIMINARY PROGRAM KENTUCKY STATE MEDICAL ASSOCIATION, SEPTEMBER 15-18, 1930.

TUESDAY A. M.—GENERAL SESSION.

9:45 A. M.—12:15 P. M.

"Treatment of Rheumatic Fever in Childhood"—Robert L. Biltz, M. D., Fort Thomas.

"Allergy"—Frank M. Stites, Sr., M. D., Hopkinsville.

"Present Day Conception of Pulmonary Tuberculosis in Infancy and Childhood."—Oscar O. Miller, M. D., Louisville.

"Chronic Suppurating Ears."—Henry C. Reynolds, M. D., Paducah.

GENERAL SESSION

1:30 P. M.—5:30 P. M.

Symposium on Minor Procedures Requiring Major Precautions:

"Dilation and Curettage of the Uterus." —Frederick L. Koontz, M. D., Louisville.

"Tonsillectomy"—Leo L. Jacobs, M. D., Covington,

"Intravenous Medication"—Benjamin B. Keys, M. D., Murray.

"Spinal Puncture"—B. W. Smock, M. D., Louisville.

"Treatment of Recent Nasal Fracture"—Charles R. Tanner, M. D., Henderson.

"Abdominal Pain from Causes Other Than Lesions of the Abdominal Viscera, in Acute Illness."—Charles G. Daugherty, M. D., Paris.

"Abdominal Pain from Causes Other Than Lesions of the Abdominal Viscera, in Chronic Illness."—Charles G. Lucas, M. D., Louisville.

SPECIAL ORDER TUESDAY

8:00 P. M., Auditorium

Oration in Medicine—"Mechanism of the Heart"—Emmet F. Horine, M. D. Louisville.

Oration in Surgery—"The Position of Urology in the Progress of Medical Science." by Owsley Grant, M. D. Louisville.

WEDNESDAY A. M.—MEDICAL SESSION

9:00 A. M.—12:15 P. M.

"Pernicious Anemia.—John Harvey, M. D., Lexington.

"Fetal Liver Feeding in Aplastic Anemia." —H. V. Noland, M. D., Louisville.

"Diet in Chronic Nephritis"—Virgil E. Simpson, M. D., Louisville.

"Serum Re-Injection Therapy in Morphine Addiction."—Wm. D. Reddish, M. D., Lexington.

"Malaria Therapy in Paresis."—Hervey B. Scott, M. D., Louisville.

SURGICAL SESSION

9:00 A. M.—12:15 P. M.

"Non-malignant Tumors of the Breast"—Joseph D. Northcutt, M. D., Covington.

"Malignant Tumors of the Breast."—Earl C. Walter, M. D., Mayfield.

"Should Resection of the Colon be a One Stage or Two Stage Operation;"—Herbert H. Hagan, M. D., Louisville.

"Mechanism of Death in Intestinal Obstruction."—Aura J. Miller, M. D., Louisville.

"Local and Regional Anesthesia in the Reduction of Fractures."—John T. Bate, M. D., Louisville.

"What Surgery Offers the Consumptive."—Wallace Frank, M. D., and Judson Boulware, M. D., Louisville.

WEDNESDAY P. M.—GENERAL SESSION

1:30 P. M.—5:30 P. M.

Symposium on Pitfalls in Therapy:

"In the Use of Iodine in Thyroid Disease."—Walter I. Hume, M. D., Louisville.

"In the Use of Arsphenamines."—Jethra Hancock, M. D., Louisville.

"In the Use of Digitalis."—Wm. A. Jenkins, M. D., Louisville.

"In Use of Circulatory Stimulants."—Ernest B. Bradley, M. D., Lexington.

"The Schilling Count."—Frank M. Stites, M. D., Louisville.

"Injuries to the Eye From the Standpoint of the General Practitioner."—Wm. B. Atkinson, M. D., and Clement V. Hiestand, M. D., Campbellsville.

"Epidemic Meningitis."—George Gregory, M. D., Versailles.

WEDNESDAY, 8 P. M.—Auditorium

Public Address—George Dick, M. D., Chicago, Ill.

THURSDAY A. M.—MEDICAL SESSION

9:00 A. M.—12:15 P. M.

"Influence of Etiology on Prognosis of Heart Disease."—Morris M. Weiss, M. D., Louisville.

"Neuroses Referred to the Heart."—J. Rowan Morrison, M. D., Louisville.

"The Failing Heart of the Fifth and Sixth Decades: Its Management." (Arteriosclerotic Heart Disease)—G. M. Wells, M. D., Glasgow.

"The Crater in the X-Ray Diagnosis of Peptic Ulcer"—C. D. Enfield, M. D., Louisville.

"The Indications for Operation in Peptic Ulcer."—Barnhard Newburgor, M. D., Lexington.

"The Management of the Diabetic in His Home."—W. M. Elliott, M. D., Lancaster.

Surgical Session
9:00 A. M.—12:15 P. M.

"The Diagnosis and Treatment of Diseases and Accidents of the Upper Air Passage by the Bronchoscope."—Gaylord G. Hall, M. D., Louisville.

"Gynecologic Treatment by Electro-therapeutic Means."—A. D. Willmoth, M. D., Louisville.

"Operation for Vesico-Vaginal Fistula."—John R. Wathen, M. D., Louisville.

"Diagnosis and Treatment of Acute Osteomyelitis."—S. C. Smith, M. D., Ashland.

"Liver Function Tests and Cholecystography in Relation to Gall Bladder Surgery."—M. J. Henry, M. D., Louisville.

"Diagnosis and Treatment of Acute Pancreatitis."—Edwin F. Sheppard, M. D., Jenkins.

Thursday P. M.—General Session
1:30 P. M.—5:30 P. M.

"A Report of the Work of the Obstetrical Department of the Louisville City Hospital for the Year 1929."—Silas Starr, M. D., Louisville.

"Pregnancy in Thyroid Disease."—E. Dargan Smith, M. D., Owensboro.

"Pregnancy in Heart Disease."—L. T. Minish, M. D., Frankfort.

"Control of Pain in Labor."—L. L. Washburn, M. D., Benton.

Film—"Treatment of Normal Breech Presentation."

Combating Inoperability of Cancer.—Denk points out that about 50 per cent of all patients with cancer who are brought to the surgeon are in an inoperable condition. The reason for this is that, at least in the beginning stage, cancerous growths often cause little pain, and the symptoms are so insignificant that they are not readily recognized. Moreover, many patients neglect to consult a competent physician, and lose valuable time with quacks. On the other hand, the practitioner sometimes overlooks symptoms of cancer because he does not examine the patient thoroughly. In order to prevent about half of all cancer patients from coming too late for effective surgical treatment, the author recommends various measures. Visiting nurses should aid in the detection of cancer by inducing the people to consult a physician early. The medical press should help the practitioners in better recognizing cancer by issuing pamphlets that deal with the symptomatology and diagnosis of cancer of the various organs. This literature should be distributed regularly, and postgraduate courses should likewise stress the great significance of an early diagnosis and the necessity of early operative treatment.

OFFICIAL CALL

THE EIGHTIETH ANNUAL MEETING OF THE KENTUCKY STATE MEDICAL ASSOCIATION TO BE HELD AT THE WESTERN KENTUCKY STATE TEACHER'S COLLEGE AND NORMAL SCHOOL, BOWLING GREEN

To the Officers and Members of the Component County Societies of the Kentucky State Medical Association:

The Eightieth Annual Meeting of the Kentucky State Medical Association will convene in the Library Building of the Western Kentucky State Teachers College and Normal School, Bowling Green, on Monday, Tuesday, Wednesday and Thursday, September 15, 16, 17, 18, 1930.

THE HOUSE OF DELEGATES

The House of Delegates of the Kentucky State Medical Association will convene in the Library Building at 2 p. m., on Monday, September 15.

FIRST GENERAL SESSION

The First General Session which constitutes the opening exercises of the scientific function of the Association will be held in the Library Building, Tuesday, September 16, at 9 a. m.

THE COUNCIL

The Council will convene in the Library Building, Monday, September 15, at 10:30 a. m.

THE REGISTRATION DEPARTMENT

The Registration Department will be open in the Library Building from 10 a. m. to 5 p. m., on Monday, September 15; from 8 a. m. to 5 p. m., on Tuesday and Wednesday, September 16 and 17; and from 8 a. m. to 12 m., on Thursday, September 18.

COUNCILOR DISTRICTS

FIRST DISTRICT
V. A. Stilley, Benton, Councilor

Ballard
Caldwell
Calloway
Carlisle
Livingston
McCracken
Marshall
Trigg
Crittenden
Fulton
Graves
Lyon

SECOND DISTRICT
D. M. Griffith, Owensboro, Councilor

Daviess
Hancock
Henderson
Hopkins
McLean
Muhlenberg
Ohio
Union
Webster

THIRD DISTRICT
C. C. Howard, Glasgow, Councilor

Allen
Barren
Butler
Christian
Cumberland
Logan
Monroe
Metcalfe
Simpson
Todd
Warren-Edmonson

FOURTH DISTRICT
D. E. McClure, Elizabethtown, Councilor

Breckinridge
Bullitt
Grayson
Hardin
Hart
Larue
Meade
Nelson
Spencer

FIFTH DISTRICT
W. E. Gardner, Louisville, Councilor

Carroll
Oldham
Franklin
Gallatin
Henry
Jefferson
Shelby
Trimble
Owen

SIXTH DISTRICT
R. C. McChord, Lebanon, Councilor

Adair
Anderson
Boyle
Green
Marion
Mercer
Taylor
Washington

SEVENTH DISTRICT

V. G. Kinnaird, Lancaster, Councilor

Casey
Clinton
Garrard
Lincoln
McCreary
Pulaski
Rockcastle
Russell
Wayne

EIGHTH DISTRICT

C. W. Shaw, Alexandria, Councilor

Boone
Bracken
Campbell-Kenton
Fleming
Grant
Harrison
Mason
Nicholas
Pendleton
Robertson

NINTH DISTRICT

S. C. Smith, Ashland, Councilor

Boyd
Carter
Elliott
Floyd
Greenup
Johnson
Lewis
Lawrence
Martin
Magoffin
Pike

TENTH DISTRICT

C. A. Vance, Lexington, Councilor

Bath
Bourbon
Breathitt
Clark
Fayette
Jessamine
Lee
Madison
Menifee
Montgomery
Powell
Morgan
Rowan
Scott
Wolfe
Estill
Woodford

ELEVENTH DISTRICT

W. M. Martin, Harlan, Councilor

Bell
Clay
Harlan
Jackson
Knott
Knox
Laurel
Letcher
Leslie
Owsley
Perry
Whitley

CONSTITUTION AND BY-LAWS OF THE KENTUCKY STATE MEDICAL ASSOCIATION ADOPTED AT PADUCAH IN 1902 AS AMENDED

CONSTITUTION

ARTICLE I.—NAME OF THE ASSOCIATION

The name and title of this organization shall be the Kentucky State Medical Association.

ARTICLE II.—PURPOSE OF THE ASSOCIATION

The purpose of the Association shall be to federate and bring into compact organization the entire medical profession of the State of Kentucky, and to unite with similar associations in other states to form the American Medical Association, with a view to the extension of medical knowledge, and to the advancement of medical science, to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interest and to the enlightment and direction of public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life.

ARTICLE III.—COMPONENT SOCIETIES

Component Societies shall consist of those county medical societies which hold charters from this Association.

ARTICLE IV.—COMPOSITION OF THE ASSOCIATION

Section 1. This Association shall consist of Members, Delegates and Guests.

Sec. 2.—MEMBERS: The members of this Association shall be the members of the component county medical societies.

Sec. 3.—DELEGATES. Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective component county societies in the House of Delegates of this Association.

Sec. 4.—GUESTS. Any distinguished physician not a resident of this State may become a guest during any Annual Session upon invitation of the Association or its Council, and shall be accorded the privileges of participating in all of the scientific work of that session.

ARTICLE V.—HOUSE OF DELEGATES

The House of Delegates shall be the legislative and business body of the Association, and shall consist of (1) Delegates elected by the component county societies, and (2) *ex-officio*, the officers of the Association as defined in Article VIII, Section 1, of this Constitution.

ARTICLE VI.—SECTIONS AND DISTRICT SOCIETIES

The House of Delegates may provide for a division of the scientific work of the Association into appropriate Sections, and for the organization of such Councilor District Societies as will promote the best interest of the profession, such societies to be composed exclusively of members of component county societies.

ARTICLE VII.—SESSIONS AND MEETINGS

Section 1. The Association shall hold an Annual Session, during which there shall be held daily not less than two General Meetings, which shall be open to all registered members, delegates and guests.

Sec. 2. The time and place for holding each Annual Session shall be fixed by the House of Delegates.

ARTICLE VIII.— OFFICERS

Section 1. The officers of this Association shall be a President, three Vice-Presidents, a Secretary, a Treasurer, and eleven Councilors.

Sec. 2. The President and Vice-Presidents shall be elected for a term of one year. The Secretary, Treasurer and Councilors shall be elected for terms of five years each, the Councilors being divided into classes so that two shall be elected each year. All of these officers shall serve until their successors are elected and installed.

Sec. 3. The Officers of the Association shall be elected by the House of Delegates on the morning of the last day of the Annual Session, but no Delegate shall be eligible to any office named in the preceding section, except that of Councilor, and no person shall be elected to any such office who is not in attendance upon the Annual Session, and who has not been a member of the Association for the past two years.

ARTICLE IX.—FUNDS AND EXPENSES

Funds for meeting the expenses of the Association shall be arranged for by the House of Delegates by an equal per capita assessment upon each county society to be fixd by the House of Delegates, by voluntary contribution, and from the profits of its publication. Funds may be appropriated by the House of Delegates to defray the expenses of the Annual Session, for publication and for such other purposes as will promote the welfare of the Association and profession.

ARTICLE X.—REFERENDUM

The General Meeting of the Association may, by a two-thirds vote, order a general referedum upon any question pending before the House of Delegates, and the House of Delegates may, by a similar vote of its own members, or after a like vote of the General Meeting, submit any such question to the membership of the Association for a final vote; and if the persons voting shall comprise a majority of all the members, a majority of such vote shall determine the question and be binding upon the House of Delegates.

ARTICLE XI.—THE SEAL

The Association shall have a common Seal with power to break, change or renew the same at pleasure.

ARTICLE XII.—AMENDMENTS

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates registered at that Annual Session, provided that such amendment shall have been presented in open meeting at the previous Annual Session, and that it shall have been sent officially to each component county society at least two months before the session at which final action is to be taken.

BY-LAWS

CHAPTER I.—MEMBERSHIP

Section 1. All members of the Component County Societies shall be privileged to attend all meetings and take part in all the proceedings of the Annual Session, and shall be eligible to any office within the gift of the Association. PROVIDED, that no physician may become a member of any county society unless he signs and keeps inviolate the following pledge:

I hereby promise upon my honor as a gentleman that I will not so long as I am a member of the Kentucky State Medical Association practice division of fees in any form; neither by collecting fees from others referring patients to me nor by permitting them to collect my fees for me; nor will I make joint fees with physicians or surgeons referring patients to me for operation or consultation; neither will I in any way, directly or indirectly, compensate anyone referring patients to me nor will I utilize any man as an assistant as a subterfuge for this purpose.

Sec. 2. The name of a physician upon the properly certified roster of members, or list of delegates, of a chartered county society which has paid its annual assessment, shall be *prima facie* evidence of his right to register at the Annual Session in the respective bodies of this Association.

Sec. 3. No persons who are under sentence or suspension or expulsion from any component society of this Association, or whose name has been dropped from its roll of membership shall be entitled to any of the rights or benefits of this Association, nor shall he be permitted to take part in any of its proceedings, until such time as he has been relieved of such liability.

Sec. 4. Each member in attendance at the Annual Session shall enter his name on the registration book, indicating the component society of which he is a member. When his right to membership has been verified by receiving a badge which shall be evidence of his reference to the roster of the society, he shall have right to all privileges of membership at that session. No member or delegate shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

CHAPTER II.—ANNUAL AND SPECIAL SESSION OF THE ASSOCIATION

Section 1. The Association shall hold an annual session, meeting every third year in the city of Louisville, and the other two years at some point in the State fixed at the preceding annual session.

CHAPTER III.—GENERAL MEETING

Section 1. The General Meeting shall include all registered members, delegates and guests, who shall have equal rights to participate in the proceedings and discussions; and except guests, to vote on pending questions. Each General Meeting shall be presided over by the President or in his absence or disability or upon his request, by one of the Vice-Presidents. Before it, at such time and place as may have been arranged, shall be delivered the annual address of the President, and the annual orations and the entire time of the sessions as far as may be, shall be devoted to papers and discussions relating to scientific medicine.

Sec. 2. The General Meeting shall have authority to create committees or commission for scientific investigations of special interest and importance to the profession and public, and to receive and dispose of reports of the same; but any expense in connection therewith must first be approved by the House of Delegates.

Sec. 3. Except by special vote, the order of exercises, papers and discussions as set forth in the official program shall be followed from day to day until it has been completed.

Sec. 4. No address or paper before the Association, except those of the President and orators shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes, nor more than once on any subject.

Sec. 5. All papers read before the Association shall be its property. Each paper shall be deposited with the Secretary when read and if this is not done it shall not be published.

CHAPTER IV.—HOUSE OF DELEGATES

Section 1. The House of Delegates shall meet annually at the time and place of the Annual Session of the Association and shall so fix its hours of meeting as not to conflict with the first General Meeting of the Association, or with the meeting held for the address of the President and the annual orations and so as to give delegates an opportunity to attend the other scientific proceedings and discussions so far as is consistent with their duties. But if the business interests of the association and profession require it may meet in advance or remain in session after the final adjournment of the General Meeting.

Sec. 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every twenty-five members, and one for each major fraction thereof, but each county society holding a charter from this Association, which has made its annual report and paid its assessments as provided in this Constitution and By-Laws shall be entitled to one delegate. In case the regularly elected delegate or alternate is unable to attend the annual meeting of the Association, the President of the county society may in writing appoint an alternate, who shall have the rights and privileges of a delegate.

Sec. 3. A majority of the registered delegates shall constitute a quorum and all of the meetings of the House of Delegates shall be open to members of the Association.

Sec. 4. It shall, through its officers, Advisory Council, and otherwise, give diligent attention to and foster the scientific work and spirit of the Association, and shall constantly study and strive to make each Annual Session a stepping stone to further ones of higher interest.

Sec. 5. It shall consider and advise as to the material interest of the profession, and of the public in those important matters wherein it is dependent upon the profession, and shall use its influence to secure and enforce all proper medical and public health legislation, and to diffuse popular information in relation thereto.

Sec. 6. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse between physicians of the same locality and shall continue these efforts until every physician in every county of the State who can be made reputable, has been brought under medical society influence.

Sec.7. It shall encourage post-graduate work in medical centers as well as home study and research and shall endeavor to have the results of the same utilized and intelligently discussed in the county societies. With these ends in view, five years after the adoption of the By-Laws no voluntary paper shall be placed upon the annual program or be heard in the Association which has not first been heard in the county society of which the author is a member.

Sec. 8. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body in such manner that not more than one-half of the delegates shall be elected in any one year.

Sec. 9. It shall upon application provide and issue charters to county societies organized to conform to the spirit of the Constitution and By-Laws.

Sec. 10. In sparsely settled sections it shall have authority to organize the physicians of two or more counties to be designated by hyphenating the names of two or more counties so as to distinguish them from district and other classes of societies and these societies, when organized and chartered shall be entitled to all the privileges and representation provided herein for county societies, until such counties may be organized separately.

Sec. 11. It may divide the counties of the State into Councilor Districts, and, when the best interests of the Association and profession will be promoted thereby, organize in each district a medical society, to meet midway between the annual session of the Association and members of the chartered county societies and none other shall be members.

When so organized from the presidents of such districts societies shall be chosen the

Vice-Presidents of this Association and the Presidents of the county societies of the district shall be the Vice-Presidents of such district societies.

Sec. 12. It shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates, and such committee may report to the House of Delegates in person, and may participate in the debate thereon.

Sec. 13. It shall approve all memorials and resolutions issued in the name of the Association before the same shall become effective.

Sec. 14. It shall present a summary of its proceedings to the last General Meeting of each Annual Session, and shall publish the same in the Journal.

CHAPTER V.—ELECTIONS OF OFFICERS

Section 1. All elections shall be by secret ballot, and a majority of the votes cast shall be necessary to elect, provided, however, that when there are more than two nominees the nominee receiving the least number of votes on the first ballot shall be dropped and the balloting continue until an election occurs in like manner.

Sec. 2. Any member known to have directly or indirectly solicited votes for or sought any office within the gift of this Association shall be ineligible for any office for two years.

Sec. 3. The election of officers shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the last day of the General Session.

Sec. 4. Nominations for President shall be called for by counties.

CHAPTER VI.— DUTIES OF OFFICERS

Section 1. The President shall preside at all meetings of the Association and of the House of Delegates; shall appoint all committees not otherwise provided for; shall deliver annual address at such time as may be arranged; shall give a deciding vote in case of a tie, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office, and so far as practicable, shall visit by appointment, the various sections of the State and assist the Councilors in building up the county societies and in making their work more practical and useful.

Sec. 2. The Vice-President shall assist the President in the discharge of his duties. In the event of his death, resignation or removal the Council shall elect one of the Vice-Presidents to succeed him.

Sec. 3. The Treasurer shall give bond for the trust imposed in him whenever the House of Delegates shall deem it requisite. He shall demand and receive all funds due the Association, together with the bequests and donations. He shall, under the direction of the House of Delegates, sell or lease any real estate belonging to the Association and execute the necessary papers, and shall in general subject to such direction, have the care and management of the fiscal affairs of the Association. He shall pay money out of the Treasury only on written order of the President, countersigned by the Secretary; he shall subject his accounts to such examinations as the House of Delegates may order, and he shall annually render an account of his doings and of the state of funds in his hands.

The council shall be the executive body of the House of Delegates and between sessions shall exercise the powers conferred on the House of Delegates by the constitution and by-laws.

Sec. 4. The Secretary, acting with the Committee on Scientific Work, shall prepare and issue the program for and attend all meetings of the Association and of the House of Delegates and he shall keep minutes of their respective proceedings in separate record books. He shall charge upon his books the assessments against each component county society at the end of the fiscal year; he shall collect and make proper credits for the same, and perform such other duties as may be assigned to him. He shall be custodian of all record books and papers belonging to the Treasurer, and shall keep account of and promptly turn over to the Treasurer all funds of the Association which come into his hands. He shall provide for the registration of the members and delegates at the Annual Sessions. He shall keep a card index register of all the legal practitioners of the State by counties, noting on each his status in relation to his county society and upon request shall transmit a copy of this list to the American Medical Association for publication. In so far as it is in his power he shall use the printed matter, correspondence and influence of his office to aid the Councilors in the organizations and improvement of the county societies and in the extension of the power and usefulness of this Association. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall act as secretary of the Committee on Scientific Work. He shall be editor of the KENTUCKY MEDICAL JOURNAL. He shall employ such assistants as may be ordered by the Council or the House of Delegates. He shall annually make a report of his doings to the House of Delegates.

In order that the Secretary may be enabled to give that amount of time to his duties which will permit of his becoming proficient it is desirable that he shall receive some compensation. The amount of his salary shall be fixed by the House of Delegates.

Chapter VII.—Council

Section 1. The Council shall hold daily meetings during the annual session of the Associations and at such other times as necessity may require, subject to the call of the Chairman or on petition of three Councilors. It shall meet on the last day of the Annual Session of the Association for re-organization and for the outlining of the work for the ensuing year. At this meeting it shall elect a chairman and secretary and it shall keep a permanent record of its proceedings. It shall through its Chairman, make an annual report to the House of Delegates at such time as may be provided, which report shall include an audit of the account of the Secretary and Treasurer and other agents of this Association, and shall also specify the character and cost of all the publications of the Association during the year, and the amounts of all other property belonging to the Association, or under its control, with such suggestions as it may deem necessary. In the event of a vacancy in any office the Council may fill the same until the annual election.

Sec. 2. Each Councilor shall be organizer, peacemaker and censor for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the condition of the profession and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his doings, and of the condition of the profession of each county in his district to each Annual Session of the House of Delegates. The necessary traveling expenses incurred by Councilor in the line of his duties herein imposed may be allowed by the House of Delegates upon a proper itemized statement, but this shall not be construed to include his expenses in attending the Annual Session of the Association.

Sec. 3. Collectively the Council shall be the Board of Censors of the Association. It shall consider all questions involving the right and standing of members, whether in relation to other members, to the component societies, or to this Association. All questions of an ethical nature brought before the House of Delegates of the General Meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline effecting the conduct of members or of a county society upon which appeal is taken from the decision of an individual Councilor. Its decision in all such cases shall be final.

Sec. 4. The Council shall have the right to communicate the views of the profession and of the Association in regard to health, sanitation and other important matters to the public and the lay press. Such communications shall be officially signed by the chairman and secretary of the Council, as such.

Sec. 5. The Council shall provide for and superintend the publication and distribution of all proceedings, transactions and memoirs of the Association and shall have authority to appoint such assistants to the editors as it deems necessary. It shall manage and conduct the Kentucky Medical Journal, which is the organ of the Association, and all money received by the Journal, the Council or any officer of the Association, shall be paid to the Treasurer of the Association on the first of each month.

Sec. 6. All reports on scientific subjects and all scientific discussions and papers heard before the Association shall be referred to the Kentucky Medical Journal for publication. The editor, with the consent of the Councilor for the District in which he resides may curtail or abstract papers or discussions, and the Council may return any paper to its author which it may not consider suitable for publication.

Sec. 7. All commercial exhibits during the annual session shall be within the control and direction of the Council.

Chapter VIII.—Committees

Section 1. The standing committees shall be as followss:

A Committee on Scientific Work.

A Committee on Public Policy and Legislation.

A Committee on Medical Education.

A Medico-Legal Committee.

A Committee on Arrangements, and such other committees as may be necessary. Such committees shall be elected by the House of Delegates, unless otherwise provided.

Sec. 2. The Committee on Scientific Work shall consist of three members of which the President-elect shall be a member and Chairman, and the Secretary shall be a member and Secretary, and shall determine the character and scope of the scientific proceedings of the Association, subject to the provisions or the instructions of the House of Delegates or of the Association, or to the provisions of the Constitution and By-Laws. Thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented, which shall be adhered to by the Association as nearly as practicable.

Sec. 3. The Committee on Public Policy

and Legislation shall consist of three members and the President and Secretary. Under the direction of the House of Delegates it shall represent the Association in securing and enforcing legislation in the interest of the public health and scientific medicine. It shall keep in touch with the profession and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall utilize every organized influence in local, state and national affairs and elections. Its work shall be done with dignity becoming a great profession and with that wisdom which will make effective its work and influence. It shall have authority to be heard before the entire Association upon questions of great concern at such times as may be arranged during the annual session.

Sec. 4. The Committee on Arrangements shall consist of the component society in the territory in which the annual session is to be held. It shall by committees of its own selection, provide suitable accommodations for the meeting-places of the Association and of the House of Delegates, and of their respective committees, and shall have general charge of all arrangements. Its Chairman shall report an outline of the arrangements to the Secretary for publication in the program, and shall make additional announcements during the session as occasion may require.

Sec. 5. The Medico-Legal Committee shall consist of three members, one of whom, the Chairman, shall be elected by the Council for five years, and the Secretary and Treasurer shall be the other two members *ex-officio*. This committee shall select and fix the compensation for an attorney, who shall act as General Counsel, and if required, additional local counsel. The Association through this Committee shall defend its members who are in good standing against unjust suits for malpractice.

CHAPTER IX.—ASSESSMENTS AND EXPENDITURES

Section 1. The assessment of five dollars per capita on the membership of the component societies is hereby made the annual dues of this Association. The Secretary of each county society shall forward its assessment together with its roster of all officers and members, lists of delegates, and list of non-official physicians of the county to the Secretary of this Association on the first day of January in each year.

Sec. 2. Any county society which fails to pay its assessments, or make the report required, on or before the first day of April in each year, shall be held as suspended, and none of its members, or delegates shall be permitted to participate in any of the business or proceedings of the Association or of the House of Delegates until such requirements have been met.

Sec. 3. All motions or resolutions appropriating money, shall specify a definite amount, or so much thereof as may be necessary for the purpose indicated, and must be approved by the Council and House of Delegates.

CHAPTER X.—RULES OF CONDUCT

The Principles set forth in the Principles of Ethics of the American Medical Association shall govern the conduct of members in their relation to each other and to the public.

CHAPTER XI.—RULES OF ORDER

The deliberations of this Association shall be governed by parliamentary usage as contained in Roberts Rules of Order, unless otherwise determined by a vote of its respective bodies.

CHAPTER XII.—COUNTY SOCIETIES

Section 1. All county societies now in affiliation with the State Association or those that may hereafter be organized in this State, which have adopted principles of organization not in conflict with this Constitution and By-Laws shall upon application to the House of Delegates, receive a charter from and become a component part of this Association.

Sec. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws, a medical society shall be organized in every county in the State in which no component society exists, and charters shall be issued thereto.

Sec. 3. Charters shall be issued only upon approval of the House of Delegates and shall be signed by the President and Secretary of this Association. The House of Delegates shall have authority to revoke the charter of any component county society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

Sec. 4. Only one componet medical society shall be chartered in any county. Where more than one county society exists, friendly overtures and concessions shall be made with the aid of the Councilor of the District if necessary and all of the members brought into one organization. In case of failure to unite, an appeal may be made to the Council, which shall decide what action shall be taken.

Sec. 5. Each county society shall judge of the qualifications of its own members, but as such societies are the only portals to this Association, every reputable and legally registered physician who is practicing, or who will agree to practice non-sectarian medicine shall be entitled to membership. Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every physician in the county to become a member.

Sec. 6. Any physician who may feel aggrieved by the action of the society of the county in refusing him membership, or in suspending or expelling him, shall have the right to appeal to the Council, which, upon a majority vote may permit him to become a member of an adjacent county society.

Sec. 7. In hearing appeals the Council may admit oral or written evidence as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a board and as individual councilors in district and county work, effort at conciliation and compromise shall precede all such hearings.

Sec. 8. When a member in good standing in a component society moves to another county in the State, his name, upon request shall be transferred without cost to the roster of the county society into whose jurisdiction he moves.

Sec. 9. A physician living in or near a county line may hold membership in that county most convenient for him to attend, on permission of the society in whose jurisdiction he resides.

Sec. 10. Each county society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material conditions of every physician in the county; and systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 11. Frequent meetings shall be encouraged, and the most attractive programs arranged that are possible. The younger members shall be especially encouraged to do post-graduate and original research work, and to give the society the first benefit of such labors. Official position and other preferences shall be unstintingly given to such members.

Sec. 12. At the time of the annual election of officers each county society shall elect a delegate or delegates to represent it in the House of Delegates of this Association in the proportion of one delegate to each twenty-five members or major fraction thereof, and the secretary of the society shall send a list of such delegates to the Secretary of this Association at least sixty days before the Annual Session.

Sec. 13. The Secretary of each county society shall keep a roster of its members, and a list of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary. He shall furnish an official report containing such information, upon blanks supplied him for the purpose, to the Secretary of this Association, on the first day of January of each year, or as soon thereafter as possible, and at the same time that the dues accruing from the annual assessment are sent in. In keeping such roster the Secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

Sec. 14. The Secretary of each county society shall report to the Kentucky Medical Journal full minutes of each meeting and forward to it all scientific papers and discussions which the society shall consider worthy of publication.

Chapter XII—Amendments

These By-Laws may be amended by any Annual Session by a two-thirds vote of all the delegates present at that session, after the amendment has been laid on the table for one day.

CONSTITUTION AND BY-LAWS FOR COUNTY SOCIETIES

Prepared by the Committee on Organization
of the American Medical Association
of which the late Dr. J. N. Mc-
Cormack was Chairman.

CONSTITUTION

Article I.—Name and Title of the Society

The name and title of this organization shall be the———————— County Medical Society.

Article II.—Purpose of the Society.

The purposes of this society shall be to bring into one organization the physicians of ————————County, so that by frequent meetings and full and frank interchange of views they may secure such intelligent unity and harmony in every phase of their labor as will elevate and make effective the opinions of the profession in all scientific, legislative, public health, material and social affairs, to the end that the profession may receive that respect and support within its own ranks and from the community to which its honorable history and great achievements entitle it; and with other county societies to form the——— ———————— State Medical Association, and through it, with other state associations, to form and maintain the American Medical Association.

Article III.—Eligibility.

Every legally registered physician residing and practicing in————————

County who is of good moral and professional standing and who does not support or practice, or claim to practice, any exclusive system of medicine, shall be eligible for membership.

ARTICLE IV.—MEETINGS

Regular meetings shall be held at such time and place as may be determined by the Society.

Special meetings may be called by the President and shall be called on a written request of five members. A call for a special meeting shall state the object of such meeting, at which no business except that stated in the call shall be transacted.

ARTICLE V.—OFFICERS.

The officers of this Society shall consist of a President, Vice-President, Secretary, Treasurer, Delegates and Board of three Censors. These officers, except the Delegates and Board of Censors, shall be elected annually. Delegates shall be elected for two years, and in accordance with the constitution and by-laws of the state association. One member of the Board of Censors shall be elected each year to serve for three years, provided that at the first election after the adoption of this constitution one member of the Board shall be elected for one year, one for two, and one for three years.

ARTICLE VI.—FUNDS AND EXPENSES

Funds for meeting the expenses of the Society shall be raised by annual dues, special assessments and voluntary contributions. Funds may be appropriated by vote of the Society for such purposes as will promote its welfare and that of the profession.

ARTICLE VII.—CHARTER

The Society shall apply to the council of the state association for a charter at the meeting at which this constitution and by-laws is adopted, or as soon thereafter as practicable, and the charter shall be kept by the Secretary.

ARTICLE VIII.—INCORPORATION

The Society shall have authority to appoint a Board of Trustees and to provide for articles of incorporation whenever it may deem this necessary.

ARTICLE IX.—AMENDMENTS.

The Society may amend any article of this constitution by a two-thirds vote of its members at any regular meeting, provided that such amendment or amendments are not in conflict with the laws and regulations of the state association; provided, also that such amendment shall have been read in open session at a previous regular meeting and shall have been sent by mail to each member ten days in advance of the meeting at which final action is to be taken.

BY-LAWS

CHAPTER I.—MEMBERSHIP

Section 1.—The Society shall judge of the qualification of its members, but as it is the only door to the state medical association and to the American Medical Association for physicians within its jurisdiction, every reputable and legally qualified physician of ———— County who does not support, or practice, or claim to practice, sectarian medicine, shall be eligible to membership.

Sec. 2.—A candidate for membership shall make application in writing and shall state his age, his college and date of graduation, the place in which he has practiced, and the date of registration in this state. The application must be accompanied by the admission fee and must be endorsed by two members of this Society. It shall be referred to the Board of Censors, who shall inquire into the standing of the applicant, assure themselves that he or she is duly registered according to the laws of the state, and report at the next regular meeting of this Society. Election shall be by ballot, and two-thirds of the votes of the members present and voting shall be necessary to elect. The application shall be returned to the Secretary, who shall file it for future reference. Applications for membership from rejected candidates shall not be received within six months of such rejection.

Sec. 3.—A physician, accompanying his application with a transfer card from another component county society of this or any state within 60 days of the issuance of said card, shall be admitted without fee on a majority vote of the members present, and without the application being referred to the Board of Censors. Such application may be acted on at the meeting at which it is presented on the vote of three-fourths of the members present, otherwise it shall lie over until the next regular meeting. No annual dues for the current year shall be charged against such members, provided the same have been paid to the Society from which the applicant comes.

Sec. 4.—A physician residing in an immediately adjoining county may become a member of this Society in like manner and on the same terms as a physician living in this county, on permission of the county society of the county in which the applicant lives.

Sec. 5.—A member in good standing who is free from all indebtedness to this Society, and against whom no charges are pending, wishing to withdraw, shall be granted a transfer card. This card shall state the date the member associated himself with this Society, the date of issuance of the card, and shall be signed by the President and Secretary. It shall be accompanied with a copy of the application presented at the time the member joined the Society, for information to the Society to which the member desires to attach himself.

Sec. 6.—All members shall be equally privileged to attend all meetings and take part in all proceedings, and shall be eligible to any office or honor within the gift of the Society so long as they conform to this constitution and by-laws, including the payment of dues. A member who is under sentence of suspension or explusion shall not be permitted to take part in any of the proceedings,or be eligible to any office until relieved of such disability. And, provided further, that none of the privileges of membership shall be extended to any person not a member of this Society except on a majority vote of the Society in regular meeting.

Sec. 7.—A member who is guilty of a criminal offense or of gross misconduct either as a physician or as a citizen, or who violates any of the provisions of this constitution and by-laws, shall be liable to censure, suspension or expulsion. Charges against a member must be made in writing and be delivered to the Secretary, who shall immediately furnish a copy to the accused and to the Chairman of the Board of Censors. The Board of Censors shall investigate the charges on their merits, but no action shall be taken by the Board within ten days of the presentation of the charges to the accused, nor before giving the accused and accusers ample opportunity to be heard. The board shall report (1) that the charges are not sustained; or (2) that the charges are sustained and that the accused be (a) censured; (b) suspended for a definite time, or (c) expelled. Censure or suspension shall require a two-thirds vote of the members present and voting, and a three-fourths vote of those present and voting shall be required to expel a member. No action shall be taken by the Secretary in such cases until at least six weeks have elapsed since the filing of the charges. A member suspended for a definite time shall be reinstated at the expiration of the time.

Sec. 8.—Kindly efforts in the interest of peace, conciliation or reformation, so far as possible and expedient, shall precede the filing of formal charges affecting the character or standing of a member, and the accused shall have opportunity to be heard in his own defense in all trials and proceedings of this nature.

Sec. 9.—Members expelled from this Society for any cause shall be eligible for membership after one year from date of expulsion and on the same terms and in like manner as original applicants.

Chapter II.—Powers and Duties

Section 1.—This Society shall have general direction of the affairs of the medical profession of the county, and its influence shall be constantly exerted to better the scientific, material and social condition of every physician within its jurisdiction. Systematic efforts shall be made by each member, and by the Society as a whole, to increase the membership until it embraces every reputable physician in the county.

Sec. 2.—A meeting shall be held at———— p .m. on the ———————— in each month (or oftener).—— members shall constitute a quorum.

The officers and committee on program shall profit by experience and by example of other similar societies, and strive to arrange for the most attractive and successful proceedings for each meeting. Crisp papers and discussions and reports of cases shall be arranged for and encouraged, and tedious and profitless proceedings and discussions shall be avoided as far as practicable.

Sec. 8.—Agreements and schedules of fees shall not be made by this Society, but at least one meeting during each year shall be set apart for a discussion of the business affairs of the profession of the county, with the view of adopting the best methods for the guidance of all. In all proper ways the public shall be taught that business methods and prompt collections are essential to the equipment of the modern physician and surgeon, and that it suffers even more than the profession when this is not recognized.

Sec. 4.—This Society shall endeavor to educate its members to the belief that the physician should be a leader in his community, in character, in learning, in dignified and manly bearing, and in courteous and open treatment of his brother physicians, to the end that the profession may occupy that place in its own and the public estimation to which it is entitled.

Chapter III.—Officers

Section 1.—The Officers of the Society shall be elected at the December meeting in each year, which shall be known as the annual meeting. Nominations shall be made by informal ballot, and all elections shall be by ballot. The vote of the majority of all the members present shall be necessary to an election.

Sec. 2.—The President shall preside at the meetings of the Society, and perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession in the county during the year, and it shall be his pride and ambition to leave it in better condition as regards both scientific attainments and harmony than at the beginning of his term of office.

Sec. 3.—The Vice-President shall assist the

President in the performance of his duties, shall preside in his absence, and on his death, resignation or removal from the county, shall succeed to the presidency.

Sec. 4.—The Secretary shall record the minutes of the meetings and receive and care for all records and papers belonging to the Society, including its charter. He shall notify each member of the Society as to the time and place of each meeting, and, whenever possible, give the program for the meeting. He shall keep account of and promptly turn over to the Treasurer all funds of the Society which may come into his hands. He shall make and keep a list of the members of this Society in good standing, noting of each his correct name, address, place and date of graduation, and the date of the certificate entitling him to practice medicine in this state; and in a separate list he shall note the same facts in regard to each legally qualified physician in this county not a member of this Society. It shall be his duty to send a copy of such lists, on blank forms furnished him for that purpose, to the Secretary of the state association at such time as may be designated by the state association. In making such lists he shall endeavor to account for each physician who has moved into or out of the county during the year, stating, when possible, both his present and past address. At the same time, and with his report of such lists of members and physicians, he shall transmit to the state association his order on the Treasurer for the annual dues of the Society.

Sec. 5.—The Treasurer shall receive all dues and money belonging to the Society from the hands of the Secretary or members, and shall pay out the same only on the written order of the President, countersigned by the Secretary.

Sec. 6.—The Delegates shall attend and faithfully represent the members of this Society and the profession of this county in the House of Delegates of the state association, and shall make a report of the proceedings of that body to this Society at the earliest opportunity.

Chapter IV.—Committees

Section 1.—There shall be a Board of Censors as provided in the constitution, a Standing Committee on Program and Scientific Work, a Committee on Public Health and Legislation, and such special committees as may from time to time be deemed necessary.

Sec. 2.—Board of Censors. This Board shall examine and report on the qualification of applicants for membership, subjecting each applicant to such examination as it may deem necessary. It shall investigate charges preferred against a member, and report its conclusions and recommendations to the Society. In case of the absence of a member of the Board, the President may appoint some member to fill the vacancy. The senior member of the Board in point of service shall be Chairman of the Board.

Sec. 3.—Committee on Program and Scientific Work. This Committee shall consist of the President, Vice-President and Secretary. It shall be its duty to promote the scientific and social functions of the Society by arranging attractive programs for each meeting and by urging each member to take part in the scientific work. It shall stimulate fraternalism and good feeling among the members in every way possible. (Provisions should be made in this Section for annual luncheons, dinners, etc., which the Committee believes to be an excellent way to bring members together. Such occasions should be made as inexpensive as possible).

Sec. 4.—Committee on Public Health and Legislation. This Committee shall consist of three members who shall be appointed annually by the President. It shall be its duty to enforce and support the sanitary and medical laws of the state in this county, to co-operate with the Committee on Public Policy and Legislation of the state association in all matters pertaining to legislation, and to prosecute quacks and medical pretenders in this county.

Chapter V.—Funds and Expenses

Section 1.—The admission fee, which must accompany the application, shall be $——, and shall include the annual dues for the fiscal year. The admission fee shall be returned if the applicant is not accepted.

Sec. 2.—The annual dues shall be $——— and shall be payable on January 1 of each year. Any member who shall fail to pay his annual dues by April 1 shall be held as suspended without action on the part of the Society. A member suspended for non-payment of dues shall be restored to full membership on payment of all indebtedness. Members more than one year in arrears shall be dropped from the roll of members.

Sec. 3.—The fiscal year of this Society shall be from January to December, inclusive.

Chapter VI.—Order of Business

The order of business shall be as follows:

1. Call to order by the President.
2. Reading of the minutes of last meeting.
3. Clinical cases.
4. Papers and discussions.
5. Unfinished business.
6. Miscellaneous business.
7. Announcements.
8. Adjournment.

Chapter VII.—Rules of Order

The deliberations of this Society shall be governed by parliamentary usage as contained in Roberts' Rules of Order, unless otherwise determined by vote.

CHAPTER VIII.—THE PRINCIPLES OF MEDICAL ETHICS

The Principles of Medical Ethics of the American Medical Association shall govern this Society.

CHAPTER IX.—AMENDMENTS

These by-laws may be amended at any regular meeting by a two-thirds vote therefor, provided that such amendment has been read in open session at the preceding regular meeting and a copy of the same has been sent to each member by the Secretary 10 days in advance of the meeting at which final action is to be taken.

REPORT OF THE BUSINESS MANAGER

To the House of Delegates:

Following the usual custom of the policies of the Association, every article, discussion and County Society report received in this office have been published in the JOURNAL.

This office has been assisting the secretaries of the County Societies in arranging their meetings, securing the speakers and printing their programs. By this means we have been able to secure a better attendance and more varied programs. Many of the Louisville and Lexington physicians have offered their services for our Speakers Bureau. Arrangements have been made to publish in each issue of the JOURNAL, the programs of the Jefferson County Medical Society in advance of their meetings, and an invitation is extended through its office to every member of the Association when they are in Louisville, to attend these meetings, at the City Hospital.

We have assisted the members of the Heart Committee in arranging for Heart Clinics, by writing posters and issuing circular letters to schools and the County Societies where the Clinics were held.

At the Richmond meeting the Student Loan Fund was organized and the Business Manager was appointed Secretary, and has assisted the chairman in this work. A detailed statement of the amount and contributors will be given in the Report of the Chairman of this committee, Dr. G. S. Hanes.

We desire to call attention to the commercial exhibits, these are carfully selected by the Council and only those firms are accepted whose products are approved by the Council on Pharmacy and Chemistry of the American Medical Association. These exhibits are arranged so as to be of value not only as commercial exhibits, but are really a post graduate demonstration of all the newer equipments in drugs, instruments, books and physical Therapy.

We are publishing in this issue of the JOURNAL, the officers of the Association and the Editorial Staff of the JOURNAL, for the success of our organization and the high rank it has obtained in Association membership and in the splendid achievements of the JOURNAL as a scientific medical magazine are due to these leaders.

Respectfully submitted,
L. H. SOUTH.

AUDITOR'S REPORT

To the Council of the Kentucky State Medical Association:

GENTLEMEN: As requested I have made a complete audit of the books and accounts of your Secretary, Dr. A. T. McCormack, and your Treasurers, Drs. W. R. McClure and M. McDowell, for the period of September 1, 1929 to and including September 1, 1930.

All receipts were properly accounted for and every item of disbursement is represented by a voucher check signed by the proper officers, and bears the endorsement of the payee.

Every item of receipts and disbursements was followed through the books and found to be charged or credited to the proper account.

The exhibits herewith submitted set forth in detail the financial transactions from several angles and show the true conditions of your affairs at this date. The accuracy and system of your records greatly facilitate the audits.

I have also checked the receipts and disbursements, and distribution of funds of the Woman's Auxiliary of the State Medical Association covering period of September 1, 1929 to September 1, 1930 and find them correct as set forth in the several exhibits submitted herewith.

Respectfully,
B. P. EUBANK.

Reconciliation of Treasurer's account for period September, 1929, to September, 1930, viz.:

Balance on hand at last report..		$ 7,683.92	
Less Vouchers then outstanding...		2,609.11	
Balance agreeing with Secretary's last report			$ 5,074.81
Amount received from Void Checks credited..			7.50
Amount received from Secretary for period		$ 18,839.43	
Amount recived from Interest on Bonds and Savings..........		616.71	19,456.14
Total			$24,538.45
DISBURSEMENTS			
Expense		$ 17,686.57	
Balance September 1, 1930, Checking Account	$ 6,235.17		
Additional Balance September 1, 1930, in Savings Account	616.71	6,851.88	24,538.45
Balance September 1,1930, Checking Account			$ 6,235.17
Reconcilement:			
Balance in the National Bank of Cynthiana, Cynthiana, Kentucky, Treasurer's Account		$ 9,549.82	

Vouchers Outstanding, viz.,

No. 113 June 30, 1930, Dr. A. T. McCormack	$ 250.00	
No. 114 June 30,1930, Dr. L. H. South	100.00	
No. 115 June 30, 1930, J. F. Blackerby	100.00	
No. 116 June 30, 1930, Elva Grant	75.00	
No. 117 June 30, 1930, Meffert Equipment Company	90.90	
No. 118, June 30, 1930, Koehler Stamp & Stencil Compnay	3.50	
No. 119 June 30, 1930, Fred Forcht, Atty.	300.00	
No. 120 June 30, 1930, Flax Mfg. Company	6.76	
No. 121 June 30, 1930, A. L. Ellerhost	35.00	
No. 122 June 30, 1930, Electric Blue Print & Supply Company	10.00	
No. 123 June 30, 1930, Times-Journal Pub. Co.	6.50	
No. 124 June 30, 1930, Times-Journal Pub. Co.	429.60	
No. 125 July 31, 1930, Dr. A. T .McCormack	150.00	
No. 126 July 31, 1930, Dr. L. H. South	100.00	
No. 127 July 31, 1930, J. F. Blackerby	100.00	
No. 128 July 31, 1930, Elva Grant	75.00	
No. 129 July 31, 1930 Woman's Auxiliary, K. S. M. A.	32.69	
No. 130 July 31, 1930, Louis Vissman	20.10	
No. 131 July 31, 1930, Times-Journal Pub. Co.	452.30	
No. 132 Aug. 30, 1930, Dr. A. T. McCormack	150.00	
No. 133 Aug. 30, 1930, Dr. L. H. South	100.00	
No. 134 Aug. 30, 1930, J F. Blackerby	100.00	
No. 135 Aug. 30, 1930, Elva Grant	75.00	
No. 136 Aug. 30, 1930, Clarence Neighbors	50.00	
No. 137 Aug. 30, 1930, Times Journal Pub. Co.	502.30	3,314.65

Balance agreeing with Secretary.......$ 6,235.17

Vouchers Nos. 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137 are in the hands of the Secretary to be delivered

STATEMENT OF ASSETS

Balance in the National Bank of Cynthiana, Cynthiana, Ky., to the credit of Kentucky State Medical Association, M. McDowell, Treasurer, (checking account).		$ 9,549.82	
Less Vouchers Outstanding		3,314.65	
		$ 6,235.17	
Savings Account	$ 5,520.00		
Int. on Bonds	480.00		
Int. on Savings	136.71	6,136.71	
Kentucky State Medical Association, Student Loan Fund Account		264.00	
Total amount in bank		$12,635.88	
Louisville Title Bonds, No. 3, 5, 8, 13, 40 @ $1000.00 each, in hands of Treasurer, deposited in the National Bank of Cynthiana, Cynthiana, Ky.		5,000.00	
Office Furniture, etc., (See Exhibit "C")		1,277.63	
Total			$18,913.51

EXHIBIT "A"

RECEIPTS

Dues from County Societies		8,961.80	
Income of Journal (Exclusive of vestments, etc.)		9,833.63	
Post Graduate Course		44.00	
Interest on Louisville Title Bonds, No. 3, 5, 8, 13, 40	$480.00		
Interest on Savings Account	136.71	616.71	
Total Receipts			$19,456.14
Balance on hand September 1, 1929			5,082.31
Total			$24,538.45

DISBURSEMENTS

STATE MEDICAL ASSOCIATION:		
President's Sundries	$ 78.30	
Secretary's Salary	1,800.00	
Secretary's Stenographer's Salary	900.00	
Secretary's Stamps and Envelopes	655.40	
Secretary's Sundries	1,053.20	
Treasurer's Bond & Expense	12.50	
Treasurer's Sundries	33.50	
Officers', Councilors' and Committee Expenses	444.21	
Committee on Public Policy, Expense	1,200.00	
Practice Act, Medical Enforcement	300.00	
Attorneys' Fees, Medico-Legal Committee	1,025.00	
Costs and Expenses, Medico-Legal Committee	154.85	
Association Sundries	622.21	
Post Graduate Course Expense	20.60	
Louisville Meeting Expense	1,258.90	
Bowling Green Meeting Expense	17.75	
Eye, Ear, Nose and Throat Section Expense	62.90	
Irvine Estate Expense	147.85	
Total State Medical Association		$ 9,787.17
KENTUCKY MEDICAL JOURNAL:		
Business Manager's Salary	$1,200.00	
Business Manager's Sundries	80.97	
Journal Advertisement Collections Paid Woman's Auxiliary, Kentucky State Medical Association	32.69	
Journal Printing	5,839.97	
Journal Postage	150.00	
Journal Sundries	595.77	
Total Journal		$ 7,899.40
Grand Total		$ 17,686.57
Balance on hand this date Checking Account	$6,235.17	
Additional Balance on hand this date, Savings Account	616.71	6,851.88
Total		$24,538.45

EXHIBIT "AA"

Student Loan Fund Contributors

1929		
Nov. 14 Dr. C. C. Howard	$ 25.00	
Nov. 14 Dr. Henry Smith	10.00	
Nov 14 Henderson County Medical Society	25.00	60.00
May 5 Dr. H. E. Martin	2.00	
May 5 Dr. Irvin Abell	100.00	
May 5 Dr. Samuel P. Sesmer	10.00	
May 5 Dr. W. L. Cash	2.00	
May 5 Dr. R. H. Cowley	10.00	
May 12 Dr. C. W. Justice	5.00	
May 12 Dr. C. C. English	5.00	
May 12 Dr. H .C. Jasper	5.00	
May 15 Dr. Smithfield Keffer	5.00	
May 15 Dr. R. R. Elmore	10.00	
May 15 Dr. D. M. Griffith	10.00	
May 28 Dr. Geo. K. Wash	5.00	
May 28 Dr. J. H. Marshall	5.00	174.00
June 5 Dr. W. N. Johnson	5.00	
June 23 Madison County Medical Society	25.00	30.00
Total Receipts		$ 264.00

EXHIBIT "B"

Detailed list of receipts from County Societies from September, 1929 to September 1930, compared with income of same period last year:

	1929	1930
Adair	$ 50.00	$
Allen	50.00	50.00
Anderson	55.00	50.00
Ballard	40.00	40.00
Barren	70.00	70.00
Bath	45.00	35.00
Bell	120.00	120.00
Boone	10.00	10.00
Bourbon	90.00	80.00
Boyd	260.00	230.00
Boyle	70.00	55.00
Bracken	50.00	30.00
Breathitt	20.00	40.00
Breckinridge	70.00	55.00
Bullitt	45.00	15.00
Butler	10.00	20.00
Caldwell	60.00	55.00
Calloway	85.00	80.00
Campbell-Kenton	600.00	540.00

Carlisle	45.00	30.00
Carroll	35.00	40.00
Carter	25.00	62.20
Casey	15.00	25.00
Christian	150.00	135.00
Clark	105.00	105.00
Clay	45.00	30.00
Clinton	15.00	15.00
Crittenden	35.00	35.00
Cumberland	40.00	40.00
Daviess	210.00	185.00
Elliott		
Estill	45.00	35.00
Fayette	475.00	500.00
Fleming	50.00	60.00
Floyd	20.00	25.00
Franklin	100.00	80.00
Fulton	65.00	60.00
Gallatin	5.00	5.00
Garrard	30.00	30.00
Grant	10.00	15.00
Graves	125.00	110.00
Grayson	35.00	42.10
Green	30.00	30.00
Greenup	40.00	40.00
Hancock		
Hardin	115.00	105.00
Harlan	175.00	260.00
Harrison	75.00	85.00
Hart	25.00	55.00
Henderson	80.00	75.00
Henry	50.00	45.00
Hickman	35.00	35.00
Hopkins	110.00	95.00
Jackson	5.00	20.00
Jefferson	2,040.00	2,012.50
Jessamine	60.00	60.00
Johnson	40.00	40.00
Knott	5.00	5.00
Knox	60.00	55.00
Larue	45.00	40.00
Laurel	40.00	40.00
Lawrence	40.00	40.00
Lee	5.00	15.00
Leslie	5.00	5.00
Letcher	60.00	130.00
Lewis	20.00	20.00
Lincoln	55.00	60.00
Livingston	30.00	10.00
Logan	85.00	80.00
Lyon	20.00	20.00
McCracken	225.00	220.00
McCreary	25.00	30.00
McLean	20.00	35.00
Madison	155.00	135.00
Magoffin	5.00	10.00
Marion	45.00	50.00
Marshall	65.00	45.00
Martin	5.00	5.00
Mason	60.00	85.00
Meade	10.00	5.00
Menifee	5.00	
Mercer	65.00	65.00
Metcalfe	25.00	25.00
Monroe	40.00	15.00
Montgomery	65.00	60.00
Morgan	15.00	10.00
Muhlenberg	85.00	100.00
Nelson	60.00	40.00
Nicholas	50.00	50.00
Ohio	45.00	25.00
Oldham	40.00	30.00
Owen	30.00	25.00
Owsley	10.00	10.00
Pendleton	40.00	35.00
Perry	180.00	150.00
Pike	85.00	90.00
Powell		
Pulaski	45.00	50.00
Robertson	5.00	10.00
Rockcastle	10.00	15.00
Rowan	10.00	10.00
Russell	25.0	25.00
Scott	65.00	75.00
Shelby	65.00	65.00
Simpson	55.00	55.00
Spencer	15.00	5.00
Taylor	45.00	45.00
Todd	25.00	30.00
Trigg	35.00	25.00
Trimble	5.00	5.00
Union	50.00	55.00
Warren	170.00	140.00
Washington	40.00	40.00
Wayne	25.00	5.00
Webster		85.00
Whitley	125.00	125.00
Wolfe	15.00	20.00
Woodford	45.00	25.00
	$9160,00	**$8,976,80**

EXHIBIT "C"

Invoice of the property of the Association: September 1, 1930.

Addressograph plates, 5000 complete addressed		$ 300.00
1 Remington Typewriter		25.00
1 Desk		50.00
1 Typewriter Chair		9.00
1 Filing Cabinet		64.75
Rubber Stamps		9.00
Guide Cards		5.00
1-3 Adding Machine		75.00
1 Electric Fan		18.00
1 Globe Safe with Fixtures		130.00
2 Cabinets for Addressograph, 36 Drawers each $45.00		90.00
2 Cabinets for Addressograph, 18 Drawers each @ $30.00		60.00
1 Cabinet for Addressograph, 9 Drawers each @ $15.00		15.00
64 Drawers at 95c each		60.80
Total		$ 911.55
80 per cent Reduction for Depreciation		729.24
Total Old Property		$ 182.31
27 Bound Volumes Kentucky Medical Journals 1903-1929		270.00
1. N. F. Q. Addressograph and Ejector	$285.00	
Less 20% Depreciation	57.00	228.00
1 Remington Typewriter		83.03
5.000 No. 5 2-cent Envelopes, Plain		108.00
1,500 No. 8 2-cent Envelopes, Plain		33.51
17,000 No. 5 2-cent Envelopes, Ky. State Medical Ass'n		367.20
250 No. 8 2-cent Envelopes, Ky.State Medical Ass'n		5.58
Total		$ 1,277.63

EXHIBIT "D"

Secretary's Monthly Balance Sheet, agreeing with books.

Sept. 1	Balance Forward Sept. 1, 1929		$5,074.81
	To Void Checks Credited		7.50
	Balance on hand September 1, 1929		$5,082.31

1929-30	Expenses	Collections	Balance
October 1	$1,284.73	$2,594.00	$6,391.58
November 1	1,372.14	847.30	5,866.74
December 1	1,936.42	1,336.67	5,266.99
January 1	2,490.40	798.85	3,575.44
February 1	1,849.75	2,210.07	3,935.76
March 1	1,983.99	2,671.06	4,622.83
April 1	1,202.89	2,368.56	5,788.50
May 1	1,189.01	2,805.33	7,404.82
June 1	1,062.59	2,042.29	8,384.52
July 1	1,407.26	1,165.30	8,142.56
August 1	930.09		7,212.47
September 1	977.30		6,235.17
	$17,686.57	$18,839.43	
Balance on hand September 1, 1929		5,082.31	23,921.74
Balance on hand September 1, 1930		6,235.17	
Total Expenses		17,686.57	$23,921.74

EXHIBIT "E"

Collections by Secretary on account of Kentucky State Medical Association, corresponding with checks, deposit slips and receipts, filed:

October 1 To Collections To Date	$ 184.60
November 1 To Collections to Date	100.00
December 1 To Collections to Date	65.00
January 1 To Collections to Date	185.00
February 1 To Collections to Date	1,385.00
March 1 To Collections to Date	1,800.00
April 1 To Collections to Date	1,460.00
May 1 To Collections to Date	1,955.00
June 1 To Collections to Date	1,542.20
July 1 To Collections to Date	285.00
Total for Year	$8,961.80

EXHIBIT "F"

Collections by Editor on account of the Journal, corresponding with checks, deposit slips and receipts filed:

1929-30	
October 1 To Collections to Date	$2,365.40
November 1 To Collections to Date	747.30
December 1 To Collections to Date	1,271 67
January 1 To Collections to Date	613.85

February 1 To Collections to Date	825.07
March 1 To Collections to Date	871 06
April 1 To Collections to Date	908.56
May 1 To Collections to Date	850.33
June 1 To Collections to Date	500.09
July 1 To Collections to Date	880.30
Total for Year	$9,833.63
October 1 Post Graduate Course	44.00
Total Receipts	$9,877.63

EXHIBIT “G”

Collections by Secretary on account of the Student Loan Fund:

1929-30

December 1 To Collections to December 1	$ 60.00
June 1 To Collections to June 1	174.00
July 1 To Collections to July 1	30.00
Total for Year	$ 264.00

EXHIBIT “H”

Total membership by Councilor Districts and by Counties for 1930 as compared to that of 1929.

First District—V. A. Stilley, Benton, Councilor.

	1929	1930
Ballard	8	8
Caldwell	12	11
Calloway	17	16
Carlisle	9	6
Crittenden	7	7
Fulton	12	11
Graves	25	22
Hickman	7	7
Livingston	4	2
Lyon	4	4
Marshall	13	9
McCracken	45	44
Trigg	7	5
	170	152

Second District—D. M. Griffith, Owensboro, Councilor.

Daviess	41	36
Hancock		
Henderson	15	13
Hopkins	22	18
McLean	4	6
Muhlenberg	16	16
Ohio	9	5
Union	10	11
Webster		16
	117	121

Third District—C. C. Howard, Glasgow, Councilor.

Allen	10	9
Barren	14	14
Butler	2	3
Christian	30	25
Cumberland	8	8
Logan	17	16
Metcalfe	5	5
Monroe	8	3
Simpson	11	11
Todd	5	6
Warren-Edmonson	22	25
....	132	125

Fourth District—D. E. McClure, Elizabethtown, Councilor.

Breckinridge	13	11
Bullitt	3	1
Grayson	7	7
Hardin	22	21
Hart	5	10
Larue	8	8
Meade	1	1
Nelson	12	8
Spencer	3	1
	74	68

Fifth District—W. E. Gardner, Louisville, Councilor.

Carroll	7	8
Franklin	20	16
Gallatin	1	1
Henry	9	9
Jefferson	397	391
Oldham	8	6
Owen	6	5
Shelby	13	13
Trimble	1	1
	462	450

Sixth District—R. C. McChord, Lebanon, Councilor

Adair	10	
Anderson	10	10
Boyle	12	11
Green	6	6
Marion	9	10
Mercer	13	13
Taylor	9	9
Washington	8	8
	77	67

Seventh District—V. G. Kinnaird, Lancaster, Councilor

Casey	3	2
Clinton	3	3
Garrard	6	6
Lincoln	11	12
McCreary	5	6
Pulaski	8	10
Rockcastle	2	3
Russell	5	5
Wayne	5	1
	48	48

Eighth District—C. W. Shaw, Alexandria, Councilor.

Boone	2	2
Bracken	10	6
Campbell-Kenton	107	104
Fleming	10	12
Grant	2	3
Harrison	15	16
Mason	10	17
Nicholas	10	10
Pendleton	8	7
Robertson	1	2
	175	179

Ninth District—S. C. Smith, Ashland, Councilor

Boyd	52	46
Carter	5	11
Elliott		
Floyd	3	4
Greenup	6	6
Johnson	8	7
Lawrence	8	8
Lewis	4	4
Magoffin	1	2
Martin	1	1
Pike	17	17
	105	106

Tenth District—C. A. Vance, Lexington, Councilor

Bath	8	7
Bourbon	17	16
Breathitt	4	6
Clark	21	21
Estill	9	7
Fayette	91	93
Jessamine	12	12
Lee		2
Madison	30	27
Menifee		
Montgomery	13	12
Morgan	3	2
Powell		
Rowan	2	2
Scott	13	15
Wolfe	3	4
Woodford	9	5
	235	231

Eleventh District—W. M. Martin, Harlan, Councilor.

Bell	22	24
Clay	8	6
Harlan	35	45
Jackson	1	3
Knott	1	1
Knox	11	10
Laurel	8	8
Leslie	1	1
Letcher	12	23
Owsley	2	2
Perry	35	30
Whitley	25	24
	161	177

EXHIBIT "I"

Detailed Statement of Disbursement of W. E. McClure, Treasurer, Kentucky State Medical Association, each made on a voucher check signed by Dr. Granville S. Hanes, President; Dr. A. T. McCormack, Secretary, and himself, from September 1, 1929 to September 1, 1930.

1929			
Sept. 30—Voucher Check No. 1—			$396.05
DR. A. T. McCORMACK, Louisville,			
To September salary, Secretary		$150.00	
To expense to A. M. A. Meeting:			
RR fare	$126.80		
Hotel bill	48.00		
Meals enroute	26.80	200.80	
To expense of Eastern Ky. trip		45.25	
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 2			$100.00
DR. I H. SOUTH, Louisville,			
To September salary, Business Manager.			
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 3			$75.00
ELVA GRANT, Louisville,			
To September salary, Bookkeeper.			
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No.4			$100.00
J. F. BLACKERBY, Louisville,			
To September servicees rendered Committee on Public Policy.			
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 5			$56.10
Clerk of Court of Appeals, Frankfort,,			
To Court Costs in case R. Galloway vs. Dr. E. N. Powell.			
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 6			$60.80
B. P. EUBANK, Bowling Green			
To auditing books and records of the Association from September, 1928 to September 1929		$50.00	
To expense		10.80	
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 7			$9.10
MAYME SULLIVAN, Louisville,			
To expense of self and assistant during Post-Graduate Course.			
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 8			$12.00
AMERICAN MEDICAL ASSOCIATION, Chicago,			
To 1 copy A. M. A. Directory, 11th Edition.			
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 9			11.33
BUSH- KREBS CO., Louisville,			
To 3 cuts.			
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 10			$11.83
MEFFERT EQUIPMENT CO., Louisville,			
To 2500 4x6 No. 18 cards for file			
To 6 doz rolls adding machine paper		$10.70	
To 1 box tiger envelopes		1.13	
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 11			$275.70
F. & V. MFG. CO., East Providence, R. I.,			
To 500 buttons and 500 bangles for 1929 meeting.			
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 12			$56.40
C. C. MAPES, Louisville,			
To reporting discussions, etc., of the Eye, Ear, Nose and Throat Section 1929 Meeting.			
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 13			$120.42
TIMES-JOURNAL PUBLISHING CO., Bowling Green,			
To 500 letterheads and 500 envelopes (Chairman Council)	6.50		
To 3 M reprints (Programs of Post-Graduate Course)	11.50		
		$18.00	
To 2200-88 P. July issue	475.92		
To 30 changes	6.00		
To envelopes	15.00		
To printing envelopes	2.30		
	499.22		
Paid on account	450.00		
Balance due		$49.22	
To 2200-80 P. August issue	442.00		
To 35 changes	7.00		
To envelopes	15.00		
To printing envelopes	2.30		
	466.30		
Paid on Account	450.00		
Balance due		$16.30	
To 2250-84 P. September issue	461.60		
To 40 changes	8.00		
To envelopes	15.00		
To printing envelopes	2.30		
	486.90		
Paid on account	450.00	36.90	
		120.42	
Approved by Council and Ordered Paid by House of Delegates.			

Oct. 31—Voucher Check No. 14 .... $150.00
DR. A. T. McCORMACK, Louisville,
To October salary, Secretary.
Approved by Council and Ordered Paid by House of Delegates.

Oct. 31—Voucher Check No. 15 .... $100.00
DR. L. H. SOUTH, Louisville,
To October salary, Business Manager.
Approved by Council and Ordered Paid by House of Delegates.

Oct. 31—Voucher Check No. 16 .... $75.00
ELVA GRANT, Louisville,
To October salary, Bookkeeper.
Approved by Council and Ordered Paid by House of Delegates.

Oct. 31—Voucher Check No. 17 .... $100.00
J. F. BLACKERBY, Louisville,
To October services rendered Committee on Public Policy.
Approved by Council and Ordered Paid by House of Delegates.

Oct 31—Voucher Check No. 18 .... $129.09
DR. CHAS. A. VANCE, Lexington,
To expense as Councilor of 10th District.
Approved by Council and Ordered Paid by House of Delegates.

Oct. 31—Voucher Check No. 19 .... $35.00
AMERICAN MEDICAL ASSOCIATION, Chicago,
To 2500 inserts—pictures of Dr. G. S. Hanes—for annual Journal.
Approved by Council and Ordered Paid by House of Delegates.

Oct. 31—Voucher Check No. 20 .... $50.00
W. H. SPRAGENS, Lebanon,
To legal services in case Dr. John T. Boldrick vs. Zelma Shewmaker.
Approved by Council and Ordered Paid by House of Delegates.

Oct. 31—Voucher Check No. 21 .... $73.90
BURNAN & GREENLEAF, Richmond,
To traveling expense to Kansas City, Mo., and return:

RR fare and Pullman	37.40
Room and meals	24.45
Bus, etc	12.05
Total expense	73.90

Approved by Council and Ordered Paid by House of Delegates.

Oct. 31—Voucher No. 22 .... $3.00
FLAX MFG. CO., Dayton, Ohio,
To 2 boxes Carbon Paper.
Approved by Council and Ordered Paid by House of Delegates

Oct. 31—Voucher Check No. 23 .... $4.97
BUSH-KREBS CO., Louisville,
To 1 cut.
Approved by Council and Ordered Paid by House of Delegates.

Oct. 31—Voucher Check No. 24 .... $3.50
KOEHLER STAMP & STENCIL CO., Louisville,
To one signature stamp.
Approved by Council and Ordered Paid by House of Delegates.

Oct. 31—Voucher Check No. 25 .... $629.68
TIMES-JOURNAL PUBLISHING CO., Bowling Green.

To 2500-96 P. October issue	525.20
To 87,655 set to 6 point	105.18
To inserting inserts	5.00
To envelopes	15.00
To printing envelopes	2.30
To 35 changes	7.00
	$659.68
Less Credit for envelopes for May and September issues	30.00

Approved by Council and Ordered Paid by House of Delegates.

Oct. 31—Voucher Cherck No. 26 .... $18.00
FOSTER'S INDUSTRIAL & DETECTIVE BUREAU, Louisville,
To 3 days' service.
Approved by Council and Ordered Paid by House of Delegates.

Nov. 30—Voucher Check No. 26-A $233.93
DR. A. T. McCORMACK, Louisville,

To November salary, Secretary,		150.00
To expense of State Meeting	51.43	
To expense of Eastern Ky Trip	32.50	83.93

Approved by Council and Ordered Paid by House of Delegates.

Nov. 30—Voucher Check No. 27 .... $118.58
DR. L. H. SOUTH, Louisville,

To November salary, Business Manager		100.00
To expense of State Meeting	2.00	
To expense to Elizabethtown and return	6.58	
To expense to Bowling Green and return	10.00	18.58

Approved by Council and Ordered Paid by House of Delegates.

Nov. 30—Voucher Check No. 28 .... $100.00
J. F. BLACKERBY, Louisville,
To November services rendered Committee on Public Policy.
Approved by Council and Ordered Paid by House of Delegates.

Nov. 30—Voucher Check No. 29 .... 101.37
ELVA GRANT, Louisville,

To November salary, Bookkeeper	75.00
To expense to State Meeting	6.37
To honorarium	20.00
	101.37

Approved by Council and Ordered Paid by House of Delegates.

Nov. 30—Voucher Check No. 30 .... $41.45
MAYME SULLIVAN, Louisville,

To honorarium	20.00
To expense at State Meeting	21.45

Approved by Council and Ordered Paid by House of Delegates.

Nov. 30—Voucher Check No. 31 .... $24.65
MRS. HELEN S. DAWSON, Louisville,

To honorarium	20.00
To expense at State Meeting	4.65

Approved by Council and Ordered Paid by House of Delegates.

Nov. 30—Voucher Check No. 32		$21.80
AGNES BLAIR, Louisville,		
To honorarium	20.00	
To expense at State Meeting	1.80	
Approved by Council and Ordered Paid by House of Delegates.		
Nov. 30—Voucher Check No. 33	$109.60	
DR. V. A. STILLEY, Benton,		
To expense as Councilor of 1st District.		
Approved by Council and Ordered Paid by House of Delegates.		
Nov. 30—Voucher Check No. 34		$29.00
DR. W. B. McCLURE, Lexington,		
To expense as Treasurer.		
Approved by Council and Ordered Paid by House of Delegates.		
Nov. 30—Voucher Check No. 35	$57.85	
DR. D. M. GRIFFITH, Owensboro,		
To expense as Councilor of 2nd District.		
Approved by Council and Ordered Paid by House of Delegates.		
Nov. 30—Voucher Check No. 36	$38.30	
DR. J. H .BLACKBURN, Bowling Green,		
To expense as President.		
Approved by Council and Ordered Paid by House of Delegates.		
Nov. 30—Voucher Check No. 37	$22.40	
DR. W. M. MARTIN, Harlan,		
To expense as Councilor of 11th District.		
Approved by Council and Ordered Paid by House of Delegates.		
Nov. 30—Voucher Check No. 38	$10.00	
DR. C. S .SMITH, Ashland,		
To expense as Councilor of 9th District.		
Approved by Council and Ordered Paid by House of Delegates.		
Nov. 30—Voucher Check No. 39	$70.00	
ROMAN BRONZE WORKS, Brooklyn, N. Y.,		
To crating 1 Model of McDowell	35.00	
To crating 1 Model of Clay	35.00	
Approved by Council and Ordered Paid by House of Delegates.		
Nov. 30—Voucher Check No. 40	$33.69	
PERKINS TRANSFER LINE, Frankfort,		
To freight and express charges on McDowell cast.		
Approved by Council and Ordered Paid by House of Delegates.		
Nov. 30—Voucher Check No. 41	$36.00	
E. H. ROEDERER, Louisville,		
To 470 badges for State Meeting.		
Approved by Council and Ordered Paid by House of Delegates.		
Nov. 30—Voucher Check No. 42		$131.25
FRANKLIN PRINTING CO., Louisville,		
To 5 M Invitation Cards, "Mayo-Fishbein"	18.75	
To 1 M Programs, 20 pages and cover	112.50	
Approved by Council and Paid by House of Delegates.		
Nov. 30—Voucher Check No. 43		$125.00
KNIGHTS OF COLUMBUS, Louisville,		
To rent of Columbia Hall.		
Approved by Council and Ordered Paid by House of Delegates.		
Nov. 30—Voucher Check No. 44		$28.95
E. L. MENDENHALL, Kansas City, Mo.,		
To attorneys expense in case D. Irvine White & Shelby W. Walker vs. David Irvine, Adm.		
Approved by Council and Ordered Paid by House of Delegates.		
Nov. 30—Voucher Check No. 45		$45.00
BURNAM & GREENLEAF, Richmond,		
To RR fare and Pullman to Jefferson City, Mo .and return, Oct. 15, 1929	25.50	
To Hotel, Meals, etc	19.50	
Approved by Council and Ordered Paid by House of Delegates.		
Nov. 30—Voucher Check No. 46		$12.50
SAMUEL D. HINES & CO., Bowling Green,		
To Bond for Dr. Marshall McDowell, Treasurer.		
Approved by Council and Ordered Paid by House of Delegates.		
Nov. 30—Voucher Check No. 47		$20.00
MRS. R. R. CASSELL, Louisville,		
To honorarium.		
Approved by Council and Ordered Paid by House of Delegates.		
Nov. 30—Voucher Check No. 48		$525.10
TIMES-JOURNAL PUBLISHING CO., Bowling Green,		
To 2250-92 P. November issue	500.80	
To 35 changes	7.00	
To envelopes	15.00	
To printing envelopes	2.30	
	525.10	
Approved by Council and Ordered Paid by House of Delegates.		
Dec. 23—Voucher Check No. 49		$150.00
DR. A. T. McCORMACK, Louisville,		
To December salary, Secretary.		
Dec. 23..Voucher Check No. 50		$100.00
DR. L. H. SOUTH, Louisville,		
To December salary, Business Manager.		
Dec. 23—Voucher Check No. 51		$100.00
J. F. BLACKERBY, Louisville,		
To December services rendered Committee on Public Policy.		
Dec. 23—Voucher Check No. 52		$75.00
ELVA GRANT, Louisville,		
To December salary, Bookkeeper.		
Dec. 23—Voucher Check No. 53		$150.00
FRED FORCHT, Attorney, Louisville,		
To legal services, 7-1-29-12-31-29 inc.		
Dec. 23—Voucher Check No. 54		$10.00
A. L. ELLERHOST, Louisville,		
To services rendered in case Tanner vs. Dr. H. E. Sanders.		
Dec. 23—Voucher Check No. 55		$50.00
CLARENCE NEIGHBORS, P. M., Bowling Green,		
To postage for Journals.		

Dec. 23	—Voucher Check No. 56			$100.96
	LOUISVILLE POSTMASTER,			
	To 20 M No. 5 2c Envelopes		432.00	
	To 10 M No. 8 2c Envelopes		223.40	
			655.40	
	First Payment		100.96	
	Balance		554.44	
Dec. 23	—Voucher Check No. 57			$554.44
	LOUISVILLE POSTMASTER,			
	To 20 M No. 5 2c Envelopes		432.00	
	To 10 M No .8 2c Envelopes		223.40	
			655.40	
	First Payment		100.96	
	Second Payment		554.44	
Dec. 23	—Voucher Check No. 58			$450.00
	TIMES-JOURNAL PUBLISHING CO., Bowling Green,			
	To account of December Journal.			
Dec. 23	—Voucher Check No. 59			$750.00
	PENTECOST & DORSEY, Attorneys, Henderson,			
	To attorneys' fee in case Galloway vs. Powell.			
1930				
Jan. 31	—Voucher Check No. 60			$191.25
	DR. A. T. McCORMACK, Louisville,			
	To January salary, Secretary		150.00	
	To reimbursement for Council Dinner Meeting		41.25	
Jan. 1	—Voucher Check No. 61			$100.00
	DR. L. H. SOUTH, Louisville,			
	To January salary, Business Manager.			
Jan. 31	—Voucher Check No. 62			$100.00
	J. F. BLACKERBY, Louisville,			
	To January services rendered Committee on Public Policy.			
Jan. 31	—Voucher Check No. 63			$75.00
	ELVA GRANT, Louisville,			
	To January salary, Bookkeeper.			
Jan. 31	—Voucher Check No. 64			$85.85
	NOGGLE & GRAHAM, Attorneys,			
	To attorneys' fees in case of Dr. J. J. Booker vs. Lee Close		75.00	
	To court costs		10.85	
Jan. 31	—Voucher Check No. 65			$9.51
	MAYME SULLIVAN ,Louisville,			
	To reimbursement for express on Journals.			
Jan. 31	—Voucher Check No. 66			$538.68
	MASTER REPORTING CO., Chicago,			
	To reporting State Meeting, Oct. 21-24-29, as follows:			
	1120 folios original	336.00		
	1187 1-2 folios carbon copies	47.50		
	8 sessions abridging	80.00		
	1 session report	5.00	468.50	
	To expense		70.18	
Jan. 31	—Voucher Check No. 67			$3.71
	BUSH-KREBS CO .,Louisville,			
	To 1 cut.			
Jan. 31	—Voucher Check No. 68			631.75
	TIMES-JOURNAL PUBLISHING CO., Bowling Green,			
	To 2300-100 P. December Journal		540.00	
	To 40 changes		8.00	
	To envelopes		15.00	
	To printing envelopes		2.30	
	To 20800 set to 6 point		20.80	
			586.10	
	Paid by Ck. No. 58		450.00	
	Balance due		136.10	
	To 2300-84 P. January Journal	461.60		
	To 40 changes	8.00		
	To envelopes	15.00		
	To printing envelopes	2.30		
	To scoring and inserting	8.75	495.65	
Jan. 31	—Voucher Check No. 69			$114.00
	TIMES-JOURNAL PUBLISHING CO., Bowling Green,			
	To 250 Envs. and 250 Letterheads, Prs.-Elect		45.0	
	To 250 Envs.. and 250 Letterheads, Treasurer		4.50	
	To 5 M Envs. and 5 M Letterheads, President		40.00	
	To 15 M Letterheads, Secretary		60.00	
	To 300 Envs. and 300 Letterheads, Coun. 10th D.		5.00	
			114.00	
Feb. 28	—Voucher Check No. 70			$326.00
	DR. A. T. McCORMACK, Louisville,			
	To February salary, Secretary.		150.00	
	To expense-Ripper Bill fight		176.00	
Feb. 28	—Voucher Check No. 71			$127.75
	DR. L. H. SOUTH, Louisville,			
	To February salary, Business Manager		100.00	
	To expense to Bowling Green	12.75		
	To expense to Pineville	8.00		
	To Posters	1.00	21.75	
Feb. 28	—Voucher Check No. 72			$100.00
	J. F. BLACKERBY, Louisville,			
	To February services rendered Committee on Public Policy.			

Feb. 28—Voucher Check No. 73 $75.00
ELVA GRANT, Louisville,
To February salary, Bookkeeper.

Feb. 28—Voucher Check No. 74 $38.17
DR. V. A. STILLEY, Benton,
To expense as Councilor.

Feb. 28—Voucher Check No. 75 $10.80
BUSH-KREBS CO., Louisville,
To 3 cuts.

Feb. 28—Voucher Check No. 76 $67.50
FRANKLIN PRINTING CO., Louisville,
To 25,000 Letterheads, "Federation of Woman's Clubs."

Feb. 28—Voucher Check No. 77 $10.71
MEFFERT EQUIPMENT CO., Louisville,
To 2 No. 587 Iudex Books 3.50
To 2 pkgs. 13 R. B. Sheets 1.00
To 2 No. 548 Indx .40
To 2 M No. 16 White Tiger Envs 7.00
11.90
Less 10% 1.19

Feb. 28—Voucher Check No. 78 $1.75
KENTUCKY BOOK MFG. CO., Louisville,
To binding Journals for 1929.

Feb. 28—Voucher Check No. 79 $60.73
ADDRESSOGRAPH SALES AGENCY, Louisville,
To 2064 Style N embossed plates with cards only 57.79
To 60 Style N embossed plates complete with frames 2.94

Feb. 28—Voucher Check No .80 $35.81
STANDARD PRINTING CO., Louisville,
To 1102 plates, frames furnished.

Feb. 28—Voucher Check No. 81 $5.00
FRANK REMINGTON, Paris,
To 300 reprint folders from Jan. issue, The Kentucky Club Woman, about Kentucky State Board of Health work.

Feb. 28—Voucher Check No. 82 $648.70
TIMES-JOURNAL PUBLISHING CO., Bowling Green,
To 2300-116 P. February Journal 638.40
To 40 Changes 8.00
To Envelopes 15.00
To Printing Envelopes 2.30
663.70
Less Envelopes 15.00

Fe. 28—Voucher Check No. 83 $482.07
TIMES-JOURNAL PUBLISHING CO., Bowling Green,
To 2300-86 P. March Journal 461.60
To 3710 Em. to 6 pt. Tab. 7.42
To 30 Changes 6.00
To Envelopes 15.00
To Printing Envelopes 2.30
492.32
Less 41 errors @ 25c each 10.25

Mar. 31—Voucher Check No. 84 $332.07
DR. A. T. McCORMACK, Louisville,
To March salary, Secretary 150.00
To March expense on Medical Legislation 182.07

Mar. 31—Voucher Check No. 85 $100.00
DR. L. H. SOUTH, Louisville
To March salary, Business Manager.

Mar. 31—Voucher Cneck No. 86 $100.00
J. F. BLACKERBY, Louisville,
To March services rendered Committee on Public Policy.

Mar. 31—Voucher Check No. 87 75.00
ELVA GRANT, Louisville,
To March salary, Bookkeeper.

Mra. 31—Voucher Check No. 88 $78.50
SOUTHERN BELL TELEPHONE & TELEGRAPH CO., Louisville,
To telephone calls, January 20-February 11, 1930.

Mar. 31—Voucher Check No. 89 $13.00
A. L. ELLERHOST, Louisville,
To investigating case of R. Davis vs. Dr. Hume 10.00
To investigating case of A. Hill vs. Dr. Richmond 3.00

Mar. 31—Voucher Check No. 90 8.50
FLORENCE BENCENBAU, Louisville,
To taking deposition of R. C. Davis case of Davis vs. Hume.

Mar. 31—Voucrer Check No. 91 14.52
BUSH-KREBS CO., Louisville,
To 5 cuts for Journal.

Mar. 31—Voucher Check No. 92 $15.00
DR. J. B. LUKINS, Louisville,
To large and small envelopes and stamps as Chairman, Medico-Legal Committee.

Mar. 31—Voucher Check No. 93 $15.00
TIMES-JOURNAL PUBLISHING CO., Bowling Green,
To inserts in March Journal 8.50
To 500 letterheads and 500 envelopes, Dr. Dean, Eye, Ear, Nose and Throat Section 6.50

Mar. 31—Voucher Check No. 94 $450.00
TIMES-JOURNAL PUBLISHING CO., Bowling Green,
To account of April Journal.

Mar. 31—Voucher Check No. 95 $1.30
CLARENCE WALKER, Louisville,
To deposition in case Dr. Fisher and Dr. Brewer.

Apr. 30—Voucher Check No .96			$296.40
DR. A .T. McCORMACK, Louisville,			
To April salary, Secretary		150.00	
To expense of telephone calls from Frankfort regarding Ripper fight		146.40	
Apr. 30—Voucher Check No. 97			$100.00
DR. L. H. SOUTH, Louisville,			
To April salary, Business Manager.			
Apr. 30—Voucher Check No. 98			$100.00
J. F. BLACKERBY, Louisville,			
To April services rendered Committee on Public Policy.			
Apr. 30—Voucher Check No. 99			$75.00
ELVA GRANT, Louisville,			
To April salary, Bookkeeper.			
Apr. 30—Voucher Check No. 100			$63.91
BUSH-KREBS CO., Louisville,			
To 13 cuts.			
Apr. 30—Voucher Check No. 101			.90
MEFFERT EQUIPMENT CO., Louisville,			
To 50 No. 725 Folders.			
Apr. 30—Voucher Check No. 102			$39.60
DR. S. C. SMITH, Ashland,			
To expense as Councilor 9th District.			
Apr. 30—Voucher Check No. 103			$513.20
TIMES-JOURNAL PUBLISHING CO., Bowling Green,			
To 2350-80 P. April Issue		444.50	
To 40 Changes		8.00	
To Envelopes		15.00	
To Printing Envelopes		2.30	
		469.80	
Less Credit by Ck. No. 94 ,3-31-30		450.00	
		19.80	
To 2250-84 P. May Issue	461.60		
To 30 Changes	6.00		
To Envelopes	15.00		
To Printing Envelopes	2.30		
To Inserts	8.50	493.40	
		513.20	
May 31—Voucher Check No. 104			$167.50
DR. A .T. McCORMACK, Louisville,			
To May salary, Secretary		150.00	
To May expense to Lexington, Pikeville and Whitesburg		17.50	
May 31—Voucher Check No. 105			$140.64
DR. L. H. SOUTH, Louisville,			
To May salary, Business Manager		100.00	
To May expense to Pineville and return	28.14		
To May expense to Cumberland Valley Med. Soc. Meeting	12.50	40.64	
May 31—Voucher Check No. 106			$100.00
J. F. BLACKERBY,, Louisville,			
To May services rendered Committee on Public Policy.			
May 31—Voucher Check No. 107			$76.00
ELVA GRANT, Louisville,			
To May salary, Bookkeeper		75.00	
To expense to Bowling Green a c State Meeting		1.00	
May 31—Voucher Check No. 108			$4.62
BUSH-KREBS COMPANY, Louisville,			
To 1 cut for Journal.			
May 31—Voucher Check No. 109			$50.00
CLARENCE NEIGHBORS, ,P. M., Bowling Green,			
To postage on Journals.			
May 31—Voucher Check No. 110			$67.08
REMINGTON RAND BUSINESS SERVICE, Louisville,			
To 1 Remington 12 B Z 205416		107.50	
Less Remington 12 ⌣ LP 33174	20.00		
Less 10 and 10 per cent	20.42	40.42	
May 31—Voucher Check No. 111			$450.00
TIMES-JOURNAL PUBLISHING CO., Bowling Green,			
To account of June Journal.			
May 31—Voucher Check No. 112			$6.75
MAYME SULLIVAN, Louisville.			
To expense of 2 trips to Bowling Green a c State Meeting.			
June 30—Voucher Check No. 113			$250.00
DR. A .T. McCORMACK, Louisville,			
To June salary, Secretary		150.00	
To June expense as Secretary		100.00	
June 30—Voucher Check No. 114			$100.00
DR. L. H. SOUTH, Louisville,			
To June salary, Business Manager.			
June 30—Voucher Check No. 115			$100.00
J. F. BLACKERBY, Louisville,			
To June services rendered Committee on Public Policy.			
June 30—Voucher Check No. 116			$75.00
ELVA GRANT, Louisville,			
To June salary, Bookkeeper.			
June 30—Voucher Check No. 117			$90.90
MEFFERT EQUIPMENT CO., Louisville,			
To 2 No. 10 Green Steel Storage Cabinets		80.00	
To 4 Extra Shelves		10.00	
To 1 box 500 Envelopes		.90	
		90.90	
June 30—Voucher Check No. 118			$3.50
KOEHLER STAMP & STENCIL CO., Louisville,			
To 1 Signature Stamp and Cut.			

June 30—Voucher Check No. 119			$300.00
FRED FORCHT, Attorney, Louisville,			
To legal services, Jan. 1-June 30, 1930		150.00	
To services interviewing witnesses and perparing Hume-Davis case for trial		150.00	
June 30—Voucher Check No. 120			$6.76
FLAX MANUFACTURING CO., Dayton, Ohio,			
To 12 Flax-Cloth Typewriter Ribons.			
June 30—Voucher Check No. 121			$35.00
A. L. ELLERHOST, Louisville,			
To services rendered in case of Davis vs. Hume May 27th and June 4th.		20.00	
To services rendered in case of Wm. Martin vs. Dr. Fort		15.00	
June 30—Voucher Check No. 122			$10.00
ELECTRIC BLUE PRINT & SUPPLY CO., Louisville,			
To 200 Blue Prints.			
June 30—Voucher Check No. 123			$6.50
TIMES-JOURNAL PUBLISHING CO., Bowling Green,			
To 500 Envelopes and 500 Letterheads, Dr. Howard.			
June 30—Voucher Check No. 124			$429.60
TIMES-JOURNAL PUBLISHING CO., Bowling Green,			
2200-80 P. June Issue		422.00	
To 40 Changes		8.00	
To Envelopes		15.00	
To Printing Envelopes		2.30	
		467.30	
Less Amt. deducted for placing Woman's Aux. material under Co. Society reports		25.00	
		442.30	
By Check No. 111		450.00	
		7.70	
To account of July Journal	450.00		
To account of July Envelopes	15.00		
To account of Printing July Envs.	2.30		
	467.30		
Less Credit-check No. 111	7.70		
	459.60		
Less December and May Envs. paid but not received, cks. No. 68 and 103		30.00	
	429.60		
July 31—Voucher Check No. 125			$150.00
DR. A .T. McCORMACK, Louisville,			
July salary, Secretary.			
July 31—Voucher Check No. 126			$100.00
DR. L. H. SOUTH, Louisville,			
To July salary, Business Manager.			
July 31—Voucher Check No. 127			$100.00
J. F. BLACKERBY, Louisville,			
To July services rendered Committee on Public Policy.			
July 31—Voucher Check No. 128			$75.00
ELVA GRANT, Louisville,			
To July salary, Bookkeeper.			
July 31—Voucher Check No. 129			$32.69
WOMAN'S AUXILIARY, KENTUCKY STATE MEDICAL ASS'N., Lousiville,			
To 25 per cent Commission on ads amounting to $130.74.			
July 31—Voucher Check No. 130			$20.10
LOUIS VISSMAN, Clerk, Jefferson Co. Circuit Court, Louisville,			
To Clerk s Cost, Davis-Hume case	6.50		
To Tax	.50		
To Sheriff	.60		
To Docket	2.50	10.10	
Defendant			
To Clerk's Cost	8.00		
To Sheriff	2.00	10.00	
July 31—Voucher Check No. 131			$452.30
TIMES-JOURNAL PUBLISHING CO., Bowling Green,			
To August Journal		435.00	
To account of August Envelopes		15.00	
To account of Printing August Envs.		2.30	
Aug. 30—Voucher Check No. 132			$150.00
DR. A. T. McCORMACK, Louisvillee,			
To August salary, Secretary.			
Aug. 30—Voucher Check No. 133			$100.00
DR .L. H. SOUTH, Louisville,			
To August salary, Business Manager.			
Aug. 30—Voucher Check No. 134			$100.00
J .F. BLACKERBY, Louisville,			
To August services rendered Committee on Public Policy.			
Aug. 30—Voucher Check No. 135			$75.00
ELVA GRANT, Louisville,			
To August salary, Bookkeeper.			
Aug. 30—Voucher Check No. 136			$50.00
CLARENCE NEIGHBORS, P. M., Bowling Green,			
To postage on Journals.			
Aug. 30—Voucher Check No. 137			$502.30
TIMES-JOURNAL PUBLISHING CO., Bowling Green,			
To account of September Journal		485.00	
To account of September Envelopes		15.00	
To account of Printing September Envs.		2.30	
TOTAL			**$17,686.57**

WOMAN'S AUXILIARY TO THE KENTUCKY STATE MEDICAL ASSOCIATION

EXHIBIT "A"

RECEIPTS

Gross dues received	$131.00		
Less American Medical Association Auxiliary dues	44.00		
Net State dues received		$ 87.00	
Contribution from Jefferson County Auxiliary		20.00	
Hygeia, American Medical Association, Commission on Subscriptions		4.25	
Commission on ads in Kentucky Medical Journal		32.09	
Total Net Receipts for 1929-30		$143.34	

DISBURSEMENTS

Southern Medical Association Auxiliary dues	$ 25.00		
Printing	184.75		
Total Disbursements		$209.75	
Loss on 1929-30		66.41	
Balance on hand Aug. 1, 1929, National Bank of Kentucky, 4th and Main Sts., Louisville		$190.42	
Transferred to Saving Account	$100.00		
1929-30 Loss	66.41	166.41	
Balance on hand ,National Bank of Kentucky, 4th and Chestnut Sts., Louisville, (Checking Account)			$24.01
Bank Balance in National Bank of Kentucky, 4th and Chestnut Sts, Louisville		$ 28.26	
Less Outstanding Voucher No. 5, C. T. Deering Co. (Printing)		4.25	
Balance agreeing with Treasurer's Report			$24.01

SAVINGS ACCOUNT

The Louisville Trust Co., Louisville	$100.00	
Interest to date	2.66	
	$102.66	
Tax charged by Bank	.10	102.56
Total Amount in Banks		$126.57

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JANE TODD CRAWFORD MEMORIAL FUND

Amount collected to date	$311.78	
Interest to date	9.38	
	$321.16	
Less Government Tax	.32	
Balance, First National Bank		$320.84

EXHIBIT "B"

Jane Todd Crawford Memorial Fund—1929-30.

July 10	Balance Forward		$209.78
Aug. 17	Donations		4.00
Sept. 12	Donations		1.00
Oct. 24	Whitley County Auxiliary		5.00
Oct. 24	Collections from different parties attending the annual meeting of State Medical Association in Louisville		10.00
Dec. 16	Mrs. Alfred Teare, Berlin, N. H.		5.00
Dec. 16	Mrs. E. H. Carey, Dallas, Texas		1.00
Dec. 31	Interest on Deposit		4.31
1930			
Jan. 13	Mrs. H. V. Usher, Graves County		1.00
Jan. 16	Mr. Ballard Thurston, Louisville		1.00
Mar. 27	Mrs. O. P. Miller, Louisville		2.00
Apr. 23	Mrs. C. H. Jones, Calloway County Auxiliary		5.00
Apr. 28	Mrs. B. M. Brown, Perry County Auxiliary		30.00
May 19	Miss Anna S. Baird, Paducah		1.00
May 19	Mrs. Muscoe Burnett, Paducah		1.00
May 24	Mrs. John Q. Taylor, Paducah		1.00
June 3	Mrs. Onderonk, Louisville		1.00
June 3	Jefferson County Auxiliary		25.00
June 23	McCracken County Auxiliary		8.00
July 1	Interest on Deposit	$5.07	
	Less Government Tax	.32	4.75
	Total		$320.84

EXHIBIT "C"

PAID MEMBERSHIP DURING 1930	1929	1930	1931
Ballard	4		
Breckinridge		8	
Calloway		5	
Hardin		9	
Jefferson	35	118	
McCracken	1	10	
Oldham		4	
Perry	10	26	
Whitley	9	7	
State at Large		7	1
Totals	59	194	1

EXHIBIT "D"

Detailed Statement of Receipts and Disbursements of Mrs. W. C. Dugan, Treasurer, Woman's Auxiliary, Kentucky State Medical Association from September 1, 1929 to September 1, 1930.

	Receipts		Disbursements
Aug. 1 Balance Forward	$190.42		$
Aug. 1 Dues, 10 1929 members, Perry county	5.00		
Aug. 1 Dues, 4 1929 members, Ballard county	2.00		
Aug. 1 Dues, 27 1929 members, Jefferson county	13.50		
Aug. 1 Dues, 9 1929 members, Whitley county	4.50		
Aug. 1 Commission on ads in Journal	32.09		
Aug 1 Check No. 128, C. T. Dearing Co., Printing delegates cards and stationery			19.75
Aug. 1 Check No. 121 dated July 3, 1929 to Mrs. C. H. Jones—outstanding		5.00	
Oct. 31 Check No. 1, amount placed on interest			100.00
Oct. 31 Dues, 6 members, State at Large	6.00		
Oct. 31 Commission on Magazine, Hygeia	2.50		
Nov. 1 Check No. 121, paid to Mrs. C. H. Jones on July 3, 1929 and just accounted for—Mrs. Salisbury, Treasurer			5.00
Nov. 1 Check No. 127, paid to Mrs. Irvin Abell on Oct. 11, 1929, and just accounted for—Mrs. Salisbury, Treasurer			12.50
Nov. 1 Dues, member for 2 years State at Large	2.00		
Nov. 4 Dues, Mrs. Molloy, 1929, McCracken County	.50		
Nov. 6 Dues, 4 members, Jefferson County	2.00		
Dec. 6 Dues, 4 members, Jefferson county	2.00		
Dec. 31 Dues, 5 members, Calloway county	2.50		
1930			
Jan. 20 Commission on Magazine, Hygeia	1.75		
Feb. 19 Dues, 23 members, Perry county	11.50		
Mar. 28 Dues, 82 members, Jefferson county	41.00		
Mar. 29 Check No. 2, C. T. Dearing Co., Printing letterheads and stamped envelopes			160.75
Mar. 29 Check No. 3, American Medical Ass'n, to Mrs. F. L. Adair, Nat'l Treas. for 126 members			31.50
Apr. 2 Dues, 3 members, Perry county	1.50		
Apr. 2 Dues, 9 members, Hardin county	4.50		
Apr. 2 Dues, 9 members, McCracken county	4.50		
May 15 Dues, 19 members, Jefferson county	9.50		
May 19 Dues, 1 member, McCracken county	.50		
June 2 Dues, 7 members Whitley county	3.50		
June 3 Donation from Jefferson County Auxiliary	20.00		
June 5 Dues, 17 members, Jefferson county	8.50		
June 5 Check No. 4, Southern Medical Association, to Mrs. C. W. Roberts Secretary			25.00
June 9 Dues, 4 members, Oldham county	2.00		
June 16 Dues, 8 members, Breckinridge county	4.00		
June 30 Check No. 5, C. T. Dearing Co., Printing membership cards			4.25
Total Receipts	$382.76		
Total Disbursements			$358.75
Balance on hand, National Bank of Kentucky, 4th and Chestnut Sts., Louisville			24.01
	$382.76		$382.76

ORIGINAL ARTICLES

SAFETY FACTORS IN THE MANAGEMENT OF BENIGN PROSTATIC OBSTRUCTION*

By Thomas D. Moore, M. D., F. A. C. S.,
The Polyclinic, Memphis, Tenn.

In the treatment of prostatic obstruction, one is impressed with the prevalence of the idea that removal of the prostate is a formidable and exceedingly dangerous operation. Not only does this impression obtain among the laity, but there is a surprising number of physicians who hold such a view. Frequently, patients state that they have been warned by their home physicians to avoid surgical relief because of the great danger. Such warnings, to be sure, are given in good faith and with the patient's best interests in mind, but may I ask: Is such a view justifiable in the light of results now being obtained in this special field of urologic surgery? Recently, several series of more than 100 prostatectomies without a death have been reported. In the hands of many surgeons, who frequently do not have the time to render the painstaking, tedious and highly specialized service, both preoperative and postoperative, these cases demand, the mortality rate is still too high. Poor results most often can be attributed to inefficient and insufficient preparation. Prostatectomy whether perineal or suprapubic, is never an emergency operation. Neglect of proper preoperative care, haste in applying the scalpel, the use of inhalation anaesthetics, the unfortunate idea that prostatectomy is a dirty operation with consequent lack of ordinary antiseptic precautions, poor hemostasis and inefficient after-care are all factors which have contributed largely to a high mortality and the prevailing fear of the operation. The effect of this misconception is that many persons with prostate obstruction rely on the catheter for relief. This practice, as shown by Squier, is attended by a high death rate, due to the inevitable infection.

In this series of 83 consecutive cases there were three types of prostatic obstruction: (1) benign hypertrophy of considerable degree, chiefly involving the lateral lobes in 47 cases: (2) hypertrophy of less degree, the lateral lobes not obstructing, but definite median lobe encroachment in 29 cases; (3) the small, sclerotic prostate with median bar formation, in 7 cases. The chief complaint in all was urinary obstruction. A detailed description of the cystoscopic and endoscopic features of these several types of prostatic obstruction is not within the scope of this report. Suffice it to say that the accurate diagnosis of these types is necessary for intelligent remedial measures.

The recognition of a large benign hypertrophy of the prostate, smooth of surface, and of characteristic rubbery consistency, is easily accomplished by digital examination and requires no special diagnostic ability. In the presence of obstructive symptoms, the finding of such a gland, followed by the testing and measurement of the residual urine, a cystogram to rule out bladder diverticula and neoplasms, and the determination of renal function is considered an adequate urologic study. There are those who routinely cystoscope all such cases, but the writer believes cystoscopy should be employed in this class of patients only when there are special indications, such as (1) when there is reason to suspect some associated kidney or bladder pathology; (2) when the size of the gland on rectal examination does not seem sufficient to explain the symptoms; (3) and in any case in which there is doubt about the diagnosis. A cystoscopic examination is not without danger in these elderly patients and should never be considered lightly. The passage of any rigid instrument into the bladder, however gentle, usually causes trauma in some degree, and may lead to serious complications. Uremia and a fatal issue have been known to follow cystoscopy in the presence of prostatic obstruction. If this examination should be necessary, however, it should be preceded by a day or two of preliminary treatment consisting of catheterization, bladder lavage and medication designed to develop some degree of immunity to instrumentation. Of the 83 cases to be discussed in this paper, cystoscopy was employed in only 50. A cystogram was made routinely in all except those subjected to a punch prostatectomy.

The Punch Operation

In 37 cases the use of the prostatic punch was clearly indicated (Fig. 1). In 47 cases suprapubic prostatectomy seemed to offer the best prospects for relief. In one case, a man

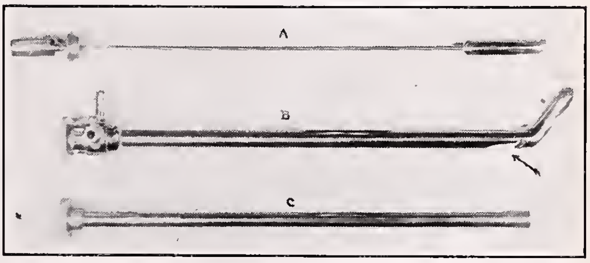

Fig. I. Braasch Median Bar Excisor. (A) Obturator. (B) Sheath; note the fenestra in which the obstructing tissue becomes engaged. (C) The punch, passing through the sheath, cleanly excises the tissue protruding into the fenestra.

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*Read before the Third District Medical Society, Bowling Green, May 14, 1930.

of 80 years, suffering from an advanced degree of myocardial weakness, which did not respond well to digitalis and rest, the punch was used in the presence of an enormously enlarged gland, with obstructing lateral lobes, in the hope that sufficient tissue could be removed to relieve the complete obstruction. A sharp febrile and painful reaction followed, and it became necessary to drain the bladder suprapubically. The grave cardiac condition contra-indicated prostatectomy. Bumpus considers the punch operation unsatisfactory in the presence of large lateral lobe involvement, and our experience seems to agree with his. In two other cases in which there was lateral lobe obstruction, the punch was used without benefit and later prostatectomy was performed with excellent results. In the 36 cases subjected to the punch operation, Caulk's cautery punch was used in 10 and Braasch's median bar excisor in 26. Delayed hemorrhage and a longer febrile reaction are prone to follow the use of the cautery method, as pointed out by Bumpus, and we have found, furthermore, that frequency and dysuria are more pronounced than in those cases in which the obstructing tissue is cleanly excised. In the latter group there is no slough to deal with, and infection is not so prone to become a troublesome feature.

The ages of the patients subjected to the punch operation ranged from 27 to 82 years. Excluding the three cases having large lateral lobes, above mentioned, in which the use of the punch was unsuccessful, the amount of residual urine varied from 30cc to 360 cc. In 9 cases of median bar formation, eight were entirely relieved subjectively; one patient, a man of 34, continues to experience some frequency, which is probably due to the fact that the punch did not remove all the inflammatory tissue present, although it enabled him to empty the bladder completely. A third patient, a man of 54 years, who had 30 cc of residual urine, continued to experience a troublesome nocturia due to the fact that he had a chronic nephritis with a large nocturnal fluid output. Still another patient, a man of 65, having multiple large diverticula of the bladder (Fig. II), was subjectively improved by the punch operation, but continues to retain from 180 cc. to 250 cc. of residual urine. The initial difficulty and small stream, however, entirely disappeared. A man of 78, having a large obstructing prostate which was found to be malignant, was first treated by radium and the obstructing tissue then removed by a punch prostatectomy He empties his bladder completely and has been greatly relieved subjectively during the past five years The remaining patients subjected to the punch operation empty the bladder completely and state that they have been entirely relieved by the operation. The average length of time in the hospital following the use of the punch was 5.8 days, varying from two to seventeen. Hemorrhage was controlled by immediate electro-coagulation in those cases in which the excisor was employed. An indwelling urethral catheter was immediately inserted following the punch and left in 12 to 48 hours. Serious postoperative hemorrhage occurred in two cases, requiring blood transfusion. One death occurred 12 days postoperative due to spontaneous retroperitoneal hemorrhage, simulating an anomalous type of apoplexy.

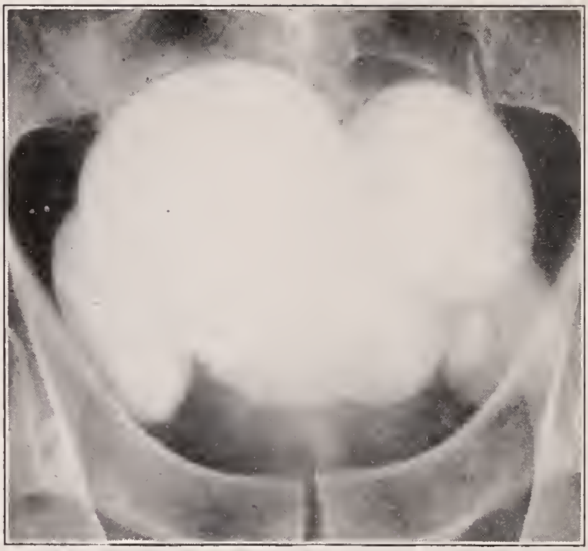

Fig .II Multiple large diverticula of the bladder. Difficulty and hesitancy of urination relieved by the punch operation. Surgical removal of the larger diverticula advised but refused. The cystogram was made immediately after micturition and, therefore, represents residual urine.

PROSTATECTOMY

Of the 47 patients subjected to suprapubic prostatectomy the ages ranged from 51 to 82 years, the average being 66.7 years. In 29 cases a primary or one-stage operation was done, and in 13 the gland was removed after a preliminary period of suprapubic drainage. Symptoms of urinary obstruction had been present from five months to 15 years; in 12 cases there was a history of an acute retention of urine; this condition was actually present in 13. In 7 cases the bladder was chronically overdistended, requiring gradual decompression. In these there was a large amount of residual urine which obviously could not be measured accurately. In 23 cases residual urine varied in amount from 45 cc to 840 cc, averaging 210 cc. The urine contained pus in appreciable amounts in 23 cases.

Renal function, estimated from the determination of the non-protein nitrogen of the blood and the blood urea, as indicated by the salivary urea index, was considered normal in 22 cases and impaired in 20. The highest reading in the series was 133.3 mgs.

Systolic blood pressure did not exceed 140 in 13 cases and ranged from 140 to 250 in 28 cases. In every instance the renal function was brought to the maximum of improvement prior to operation. Usually there was a simultaneous recession in blood pressure and a definite improvement in the general condition of the patient. In the group of 30 cases subjected to the one-stage prostatectomy, the period of preparation by urethral catheter drainage ranged from 10 to 55 days, averaging 17 days. In no case was there less than 10 days of preparation, which has been set as an arbitrary minimum, as suggested by Hunt.

In the 17 cases operated on in two stages, the period elapsing between the first and second stages varied from 14 to 286 days, averaging 45.3 days. In two cases, carcinoma of the bladder was associated (Fig. III); in one, the neoplasm was destroyed by surgical diathermy. The other was treated with an electrocautery. In both, a primary prostatectomy was done at the same time, both patients recovering.

In 7 cases large surgical diverticula were associated; in 6 the diverticula were removed, 4 at the first stage of a two-stage prostatectomy and the other two were removed at the same time a primary prostatectomy was done. One patient, a man of 82, had developed acute retention from a large prostate. The gland was enucleated and the openings of two diverticula were manually dilated. It was thought best not to attempt diverticulectomy, because of the large size of the sacs, which would have required an extensive dissection, with too great a risk at his advanced age. The operation was done five years ago. This patient, now 87, arises only once at night to micturate; his physician irrigates the bladder occasionally in order to drain the diverticula and to control infection.

In six cases bladder stones were present. In one, the calculi were removed by litholapaxy and eleven days later a primary prostatectomy was performed. One other case was subjected to litholapaxy, followed by the punch operation. In the other cases, the stones were removed either at the preliminary suprapubic drainage or simultaneously with the enlarged prostate.

Postoperative complications were limited to epididymitis in nine cases. During the last two years ligation of the vasa deferens has absolutely prevented this troublesome condition. The Pilcher hemostatic bag, which was used routinely to control hemorrhage, proved defective in two instances, permitting moderate hemorrhage soon after the operation. These bags are now subjected to continuous overdistention for at least six hours prior to use, in order to detect slow leaks, which may be otherwise overlooked. A third patient developed a profuse hemorrhage on the sixth day, requiring immediate transfusion. In this case the gland proved to be malignant; characteristic of such cases, the enucleation was very difficult. Postoperative bleeding in such cases is not unusual.

Postoperative Convalescence

In the series of 47 prostatectomies, there were 16 in which the incision healed by primary union, the patients being dismissed from 11 to 17 days after the operation. In seven other cases healing was complete in less than 21 days. In 24 cases, including two with associated carcinoma of the bladder, the time required for the wound to completely heal varied from 22 to 67 days. The average time in the hospital following operation for the entire group was 23 days. In the two cases of malignancy of the bladder, suprapubic tubes were left in from two to three weeks to facilitate the elimination of sloughs. In another case, in which the removed gland proved to be malignant, a permanent suprapubic tube was left in. Excluding these three cases, the time required for complete healing ranged from 11 to 46 days, the average being 21.6 days. In many of the cases no urine drained through the incision after the first 24 hours. Although in every case the wound was entirely healed 48 hours before dismissal, the time recorded is the number of days intervening between the operation and discharge from the hospital. No case was dismissed until the wound was completely healed. Factors which encourage a shortened convalescence are tedious at times, always painstaking, but are worth while if for no other than economical reasons. Obviously a clean wound and prompt healing permit the patient to be up and about early, with consequent rapidity of convalescence.

Mortality

In the series of 83 cases there were four deaths. One patient, a man of 66, for two years had been subject to attacks of angina pectoris with Stokes-Adams syndrome. The increased hazard because of the cardiac condition was recognized, and, in spite of precautionary measures, a fatal attack followed shortly after a secondary prostatectomy.

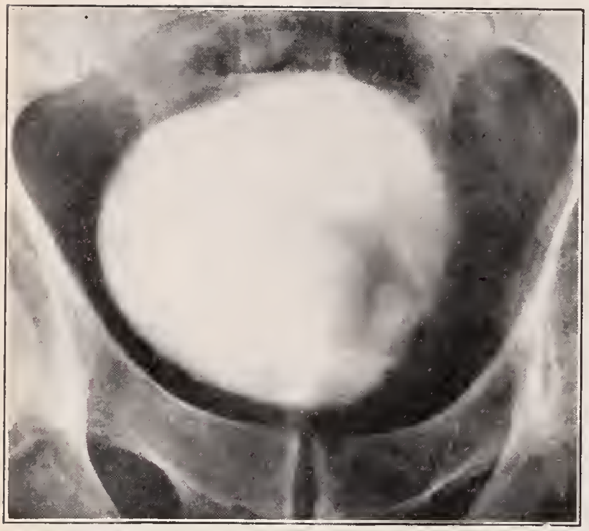

Fig. III. The large filling defect was produced by a carcinoma arising from the left wall of the bladder. Surgical diathermy was employed to destroy the growth and a primary prostatectomy was done at the same time.

Another death was due to a severe pyelonephritis on the twelfth day which began five days following operation. A third death occurred suddenly thirty days following operation caused by pulmonary embolism. The fourth death, twelve days following a punch operation was due to a very unusual vascular. accident—a spontaneous massive retroperitoneal hemorrhage.

It is pointed out, with pardonable pride, that two of the most frequent causes of death following prostatectomy, pneumonia and uremia, did not occur in this series. Factors which have contributed largely to safety in cases of prostatic obstruction may be briefly enumerated, as follows: (1) Adequate preoperative treatment carried out over a sufficiently long period to bring renal function and the general condition of the patient to the maximum of improvement. (2) The avoidance of inhalation anaesthesia and the employment of some type of local anaesthesia is important. In 18 cases spinal anaesthesia was used. In 29 combined sacral and abdominal field block was employed. In the more recent cases spinal anaesthesia has been the method of choice. The punch operation was done under sacral anaesthesia. (3) Careful operative technic, with particular reference to antisepsis, asepsis and hemostasis. It is never justifiable to consider prostatectomy a dirty operation and to abandon all antiseptic precautions. (4) The enforcement of a large fluid intake immediately before and after operation.

SUMMARY

The punch operation for prostatic obstruction can be employed with good results in selected cases. It was successfully used in 36 (43.4%) of this series of 83 cases.

Prostatectomy, once considered a dangerous operation, has become a comparatively safe procedure in the hands of those who observe strictly those principles which in recent years have been so strongly emphasized by the leading genito-urinary surgeons.

In this series of 83 cases, 30 (63.8%.) were one-stage operations, and 17 (36%) were done in two stages. There were four (4.8%) deaths, three of which were due to cardiovascular disease rather than surgical causes.

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RADIUM AND ITS USE IN UTERINE DISEASES*

By W. E. Gary, B. S., M. D., Hopkinsville.

Before speaking directly on the subject of this paper I deem it wise to review somewhat the present views and the status of Radium Therapy in general.

Radium has now been in use a sufficient length of time and by a sufficient number of men with different ideas for us to now know definitely its action, the scope of its field of valuable service, and its limitations.

It is also time to debunk it of the glamour of the false claims both for good and for evil in the lay mind which have been fostered by the prolific writings of the lay press.

The work of the charlatan and the quack ever ready to take advantage of any publicity of a new remedy from whatever the source, to further their own gains, has had its effect.Their foolish claims of such supernatural power as to cure all diseases from rheumatism on down with so-called Radium water, ointments, etc., has caused no end of trouble.

The famous clock works poisoning case of New Jersey has had its effect in the opposite direction. There the girls were accustomed by habit to point their brushes dipped in a radium solution with their lips which caused death after ten years of two of the workers from anemia and necrosis of the jaw. The propaganda put out by the lawyers and the so-called expert testimony about the retention of radium in the body indefinitely, and predicting the certain death of the other victims has caused many to fear the use of radium. It is needless to state that since a satisfactory settlement for damages has been made in these cases the victims are rapidly improving and many of them have turned to other occupations. Radium is not stored up in the body and does not act indefinitely. It takes some time to obtain the full effect of a dose and the scar tissue formed contracts and reacts similar to scar tissue from any source. Then too the Radiologists have been responsible for some very just criticisms and for results that have turned patients away from the use of radium.

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*Read before the Third District Medical Society, Bowling Green, May 14, 1930.

Probably no more misleading saying in medicine has caused more trouble from over doses than the one often heard, that unless a large quantity of radium is had and massive doses are given, good results can not be obtained.

Since radium is so expensive it is easily seen how such propaganda would benefit radium sales agents and those able to own and obtain large quantities of radium.

The fact that in certain cases improvement was had after first treatment and not after the second, gave rise to the false theory that carcinomata developed an immunity to radium and this also contributed to over doses. These factors together with the knowledge that one is dealing with an incurable malady and that death is certain in a short time has caused many a Radiologist to err on the side of massive doses to the increased discomfort of his patient and occasionally death.

It should be realized at the beginning that certain cases will not respond to radium or any other agency and that there is no known method of determining which case will and which case will not respond without trial any more than which will be or will not be benefited by surgery or other means.

It is the belief of the author that one is never justified in giving a dose that will cause the patient great discomfort and perhaps hasten death. We must recognize that in these incurable cases particularly of the uterus, it is far better to give smaller doses often repeated with greater comfort to the patient and simply be content with holding the disease in check as long as possible. If the Radiologist is sufficiently versed in the reaction he gets and can tell the difference between a radium burn and breaking down of malignant tissue it is perfectly safe to give repeated applications. Since there is one radiologist to about fifty surgeons, and to three hundred doctors and as it is but natural for every one to think that his way is the best way, it is easily seen why the preponderance of opinion in literature leans more to surgery than radiation. A careful check up of statistics shows that about 50% of cases of all malignant conditions are relieved by surgery alone, sixty per cent by radiation alone and over 70% where both are used.

In cancer of the cervix of the uterus surgery and cautery seem to have very little effect, while radium has an almost specific effect. The percentage of cures can undoubtedly be increased by use of radiation before or at time of surgery but not after. No tumor should ever be removed without radiation of from four to six week unless it is positively known to be non-malignant.

The reason is easily seen. Cancers are loosely made up tumors and the cells migrate very quickly, especially if disturbed. The knife and the cautery only reach those cells removed or on the burned surface while radiation reaches all parts of the surrounding tissues inversely as the square of the distance from the point of radiation. All tumors are made up of the embryonic cells of the tumor with a frame work of more or less typical adult tissue. Radiation effects the embryonic cells easily but to destroy the adult tissue frame work, it must be used sufficient to cause a burn which is hard to heal and has the appearance of a broken down carcinoma. It is much better to give radiation to kill the malignant cells of the tumor as well as the migrating cells within reach without burning and then remove the entire mass surgically.

Since the beginning there have been two schools of Radiation Therapy. One school believes that the short wave of greater penetration that can be given for a longer interval of time without burning, is the essential thing to be desired. Consequently the big twenty inch gap x-ray machines were built and operated, but do not show any increase of cures over the eleven inch gap machines. The other school believed that it was the quality of the wave itself that had its effect on embryonic cells and the question was one of working out methods of using waves of only certain quality. Radium gives off the same waves as x-ray, can be easily placed where radiation is needed and the selected wave be had by proper screening with copper, silver, wood and rubber containers.

Personally I believe we get our best effect from all the rays, Alpha, Beta and Gamma, used for a short time practically without screening. As proof, it is universally accepted that the best results are obtained in the superficial epithelioma where less screening is used by all radiologists, and it necessarily must be because of the greater use of all the rays. The problem therefore, must be one of working out methods where all the rays can be used without damage. This is best accomplished by placing the needles or implants near the center of the tumor, or if it is a superficial tumor, at the base, giving longer time to tumors where radium can be placed beneath or away from the skin.

The uterus can stand more radiation without damage than any other organ in the body, it appears, and best results are obtained by using simply a brass screen in thin rubber unless it is possible to implant the needles in the tumor itself. Care must be taken so that it cannot become misplaced so as to injure the vagina, rectum or bladder. The pain complained of in most cases where large doses are given is due to a burn of the vaginal walls either into the rectum or bladder.

In uterine cancer as well as all other types, the greater precentage of cures is to be had when recognized early, for that reason it is time all doctors should pay more attention to their patients going through the menopause. Nearly every case of uterine cancer gives the same history of excessive bleeding, and from one to two stormy years at the menopause, and they were usually dismissed with the cursory explanation that it was just the change of life, nothing to worry about.

From two to five years later hemorrhage from a broken down carcinoma appeared, too late in a majority of cases to be given anything but temporary relief. The woman has had no pain, no suspicion of anything wrong and no cause for examination. The fault lies with the improper advice given her at the time of her unusual irregularities at time of the menopause, that "it is only the change of life," "you will get over it by and by." I heard one doctor say, "they always do get well, I never saw one die from hemorrhage at the change of life, no matter what was done." They probably will stop hemorrhaging, but if there is not already a cancer present, there certainly is a fertile field for development of one in the big boggy uterus left to its own devices. These cases are not normal and should be told so. The time to save the patient is then, not later. The vitality and general health is conserved and the possibilities of a future cancer eliminated in 98% of cases, if properly treated.

Drugs do practically no good; packing of the uterus and vagina are only temporary and irritating, and where not successful, hinder further treatment. Hysterectomy subjects the patient to a major operation that takes from six months to a year to recover from, with possibilities of adhesions, etc., to complicate matters later on, or if a cancer is present, harm rather than good is done.

Radium applied to the uterus, with x-ray over the ovaries will control the hemorrhage, destroy the diseased mucous membrane of the uterus, contract the boggy uterus to a hard normal fibrous body, destroy small tumors and cysts, and render less likely the possibility of cancer by fully radiating the entire structure.

I heard a prominent Nashville surgeon in advocating 100% Hysterectomy decry the use of radium because statistics show that 2% of cases where radium was used developed cancer. When you consider that 80% of cases radiated are so treated because cancer was suspected, and if 98% fail to develop, to my mind that seems about as near perfect as it is possible for a remedy to be.

Radium does not however control the hemorrhage over night in all cases, and the patient as well as her doctor, should understand that fully. Radium applied at the time of the menstrual period will usually stop at once and by the next period four weeks later, full effect of the treatment is had, and no trouble experienced, a normal period or less than normal is experienced, and after that total cessation.

If however the period comes on a few days after treatment, bleeding will occur at that time, and in many cases is increased for the first day or so, an additional dose can be given at this time, the bleeding controlled and the usual routine is followed thereafter. It is my custom to divide my doses in cases where the actual time of the menstrual period could not be determined so that such condition could be taken care of without overdosing. The only cases that have ever differed from this procedure were ones where tamponing of the uterus had been practiced a long time, dilating the cervix, paralyzing the uterine muscle and destroying the stimulating effect of the presence of a foreign body in the uterus to bring about contraction.

Radium is the accepted treatment in all cancers of the cervix, and should be used in all suspicious cases, regardless of age of patient even when Hysterectomy is performed for other reasons.

After curetment of polyps the application of radium has prevented the return in all cases treated up to the present time.

In large fibroids or cysts it should not be used except to control hemorrhage temporarily, or in cases where great pelvic pain exists.

It is usually prohibited by most authorities in inflammatory conditions of the pelvis. It will, of course, not relieve any inflammatory conditions, but in case of malignancy I would not hesitate to use it, as the only bad effect is to raise the temperature for a few days. I have never seen any serious trouble from chronic inflammatory conditions from either x-ray or radium, but have had with acute gonorrhea.

Radium is a definite and satisfactory remedy. It has no supernatural powers for good or for evil, but is a substance that at ordinary temperatures, radiates heat in the form of Alpha, Beta and Gamma rays. It has the power to burn the skin and tissues, to cause the contraction of muscle and connective tissue, thus controlling hemorrhage; it has a selective power of destroying embryonic cells of tumors and cancers.

In its proper field nothing can take its place. The future is bright for the increase in the cure of malignant diseases, if competent surgeons and competent radiologists collaborate, with a thorough understanding of what it is all about, and the general practitioner helps by sending the cases in early.

TALK*

By W. A. Bryan, M. D., F. A. C. S.,
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Some wag has said that the three most rapid means of communication are: telephone, telegraph and tell-a-woman. Whatever success may be had from the former two, this address will depend for its chief value on the latter one. Not satisfied with the singular, it presumes to multigraph its efforts by telling more than one woman. If a certain general belief is not false, interest and satisfaction may be increased for you who are the center of interest tonight by adding without facetiousness that the theme is advice to talk.

Of all the things that man has done in ages gone or still does, only a few stand out in bold relief as having prime fundamental significance for progress and ultimate welfare of the human race. Some have claimed that man's most important accomplishment was his change from a quadruped to a biped, his successful effort to stand on his hind legs and so to liberate his front legs to become prehensile hands. These claim that without hands the human family could never have become human. Another group feels that the greatest single feat in early human progress was taming the dog and making him a companion and a servant, for, they say, until this was done man had no time for leisure and reflection, being occupied all the while in search of food, and when food was found, in gluttony and sleep, with no time for reflection or even the rudest culture. When the dog came into his life, sustenance became easier and a little time could be had in which attention could be paid to culture; so that human refinement began to take form. Then another claims that the invention of language had more to do with human development than anything else, and still another writing or the invention of the alphabet.

Let it be admitted that bipedism, prehensile hands, dogs, language and letters are of equal prime value in the history of man. What is his most useful agency now? What is the most important thing a human being can do? It is to talk. An inventory of the books written and continuously pouring from world-wide presses staggers the mind. Go into some big library and you will get a feeling of the enormity of printed books. Multiply this by a million and some idea of the number of books may be gained. Yet, where volumes are printed, tons are talked. That is why the American Telephone Company is the largest financial institution in the world. It is built on nothing but talk. Talk is the most important thing in the world.

Reference is not made to idle talk. People need no advice to do that. It will be done regardless. But serious talk is different. This necessitates that one shall have something to talk about, and this in turn that the talker shall have worked sufficiently long and hard to have valuable information to convey to others. This fact necessitates a listener, and only they gain the greatest usefulness as talkers who have the knack of talking in such a way as to carry conviction. There is an art of talking which embraces honesty, seriousness, alertness, the air of knowing one's subject, shrewdness, kindliness, attractiveness, sympathy, and perhaps much more. One who has something worth while to talk about is fortunate if he has the ability to command attention, and to carry his point. John Ruskin wrote that the greatest thing a man can do in this world is to see something clearly and tell it.

Talk, tradition, has been the foundation of every important nationality known to history. The greatest epics, the proverbs, the maxims, the folklore language itself with obsolete words, and new words and slang, some of which will in a short while be listed in dictionaries as good words, the idioms, the structure and genius of language were created by talk.

The things men do are individual, local, provincial, most of them are temporary, but whoever can fix a right idea in another's mind has created something eternal. The things we do pass, the ideas we create continue; works die, thoughts live. When the surgeon has laid his knife aside for the last time, when the doctor's paraphernalia are rusted and rotted and gone, when the nurse's basins and hypodermic are dust, long after that their faithful, educative, honest, helpful words will be quoted; and longer still these ideas will assume a fame independent of the names of those who uttered them until finally they become part and parcel of humanity's common possessions, like the Hindoo soul passing into Nirvanah.

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*Address delivered to Graduation Class, 1930, Training School for Nurses, Bowling Green City Hospital, Bowling Green.

What then can a graduate nurse talk about that is worth while, when opportunity arises, as it frequently will? There is a rapidly widening rift between the medical world and the laity. It is already impassably wide and there is no hope of its becoming narrower. As medicine becomes more scientific and more complicated, it is but reasonable that those whose occupation and study are along other channels should know less and less about it. Thus the proverb that a little learning is a dangerous thing, comes into its own. There was a time when an occasional woman, rarely a man, knew almost as much about medicine as the family doctor, but that time is no more. Anyone who thinks he knows as much as his doctor, should immediately check up and, if he finds he does, should either change doctors or apply for license to practice. The layman knows less about medicine than he does about anything,because there is so awfully much to know. Einstein's theory, the physical properties of electricity and light, the structure of atoms, the mechanisms of the universe are just as perfectly understood by him as the simpler problems of medicine. He doesn't know what a pimple is, and deep down in his heart knows he doesn't know. Your work may be broadened, therefore, very much if you will acquaint yourselves with the conditions about which people are accustomed to neglect their ailments or try to treat them at home without knowing either what is the matter or, knowing this, what the remedy. This, to be effective, must be done in an unprejudiced way.

The first necessity in case of real or suspected illness is a correct diagnosis. The average layman does not think so, for when this illness becomes serious his wail, very naturally, is "Do something Doctor, do something quick," when it should be "Diagnose something." This is a truism, for in the multitude of diseases and the numberless variety of treatments, no doctor knows what to do till he knows what he is doing it for. It is an embarassing admission to say that patients sometimes recover or die without the doctor knowing the cause, so difficult is the task of diagnosis. The best reason against administration of patent medicines is that those who use them know neither what they are giving nor why they are giving them, not because there might not be some useful drug in the patent medicine.

On this item of diagnosis and treatment it is imperative and advantageous that each and every nurse gain her own consent to refrain from both; imperative because her training has not been adequate to make her even semi-proficient in such work, and advantageous because, if indulged, it is the shortest cut to permanent involuntary idleness. It is worse than impudence.

Again, there is a great tendency on the part of people which, it's a pity to say, is sometimes encouraged by timid doctors, to postpone the only curative treatment as long as possible. They have a way of saying, for instance, that they don't want to be operated on till the last thing. That is wrong: such people receive their operation next to the last thing: the funeral is last. All such have their reward, verily.

A word, intelligent, kindly, sympathetic, earnest, from the nurse in cases where the patient or a relative persists in deferring an operation that offers the only hope for cure or life, will frequently change the whole trend and save an individual to the community, a loved member to the family. Once something needs to be done by some one competent to do it, you may require the utmost ingenuity and tact to remove objections raised against the treatment. It is wise first to find out what the objection is. It may be the sheerest prejudice, or what some one said, an old relative who was the great grandfather's doctor and who didn't believe in operations fifty or a hundred years ago. Also he did not believe in moving pictures, radio, automobiles and aeroplanes. Often the prejudice is knowledge of some one having this treatment or operation, who died, an argument built on the hypothesis that one swallow makes a summer. The whole question you must be able to make your patrons understand is that the mortality of this disease under consideration, is much greater in those who are not operated upon, than in those who are, or that there is no hope without operation while with operation there is hope. This fear of surgery that was once so prevalent, is largely confined now-a-days to the ignorant, but it is as much your duty to aid in saving the life of these as of the wise. You are able to come much closer to the hearts of many people than the doctor. Coming into such relation you can help him to offer and them to accept his profferred treatment, when without such help the treatment could not be done, and its benefits would be lost.

Reference has been made to diagnosis. Great effort is being employed in the medical profession to establish two points in the public mind, one point being that early diagnosis is important because cure is easier and more certain; the other point, that diagnosis is not the simple thing so many think it is, and the earlier it is made the more difficult, because then so many characteristic symptoms are not yet developed. Tuberculosis of the lungs is only too often considered a bad cold or a bronchitis. It has been diagnosed even as disease of the stomach. Treatment for bad cold or bronchitis not only does no good, but the disease itself grows worse meantime, and the individuals' and his associates' lives are menaced by this foolhardy persistence of laymen who know nothing of disease or diagnosis, guessing at the cause and the treatment. Any bronchitis deserves a careful examination at competent hands; when it holds on longer than a few days such examination is imperative.

If the public are wiser in their own conceit on one single subject in medicine than in any other, that subject is "abdominal pain" and it brings more of them to early graves than any other single item of their ignorance, except perhaps cancer. Now, if nurses and doctors could once convince the people that "abdominal pain" is a symptom and not a thing, not a disease, the annual saving of life would be very great. Every ruptured appendix is the result of somebody's misinformation, and every death from appendicitis is the result of Ignorance playing a game of chance with Destiny. They all want to explain all these "pains" by something the patient has eaten. Who hasn't eaten something three times and more a day all his life, food that varies with the seasons, digestible and indigestible? It may be unwise, but is sufferable that patients may wait and play with a pain in the head or tooth or chest or back or hand or foot, but a pain in the belly calls for a good doctor at once. That pain might be produced by food; almost always it is not. It might be appendicitis, or ulcer, or gall bladder disease, or pancreatitis, or intestinal obstruction, or intestinal spasm, or cancer, or pneumonia, or a host of others less common, but no less sure. It is doubtful if one such pain in twenty is caused by food when no disease is present. Tell this to the world. The people with whom you associate, the families in which you nurse, need instruction and help in this respect. If you would be apostles sent of God, go into the world convinced that your great work will be not nursing, not work, but talk, by which, if you can help to make this knowledge universal, with it resultant stimulus to act while there is yet time, you will be able to perform a useful part of a service that will save annually in these United States more lives than we lost in the great war.

There is a symptom, a pain, a hemorrhage, a lump, a cough, loss of weight, an attack of rheumatism, shortness of breath, an unnatural color of the skin, a swollen neck, bulging eyes, swollen feet, unusual or unnatural reaction to noises and sights, tremulousness, a thousand things you know that are signposts on the road to death; one reads "three months," another "three days," another "three years;" sometimes "three hours." Would it be more than fair for you, when these symptoms are discussed in your presence, as they will be, or when you are asked specifically about them, as you will be, to say "Yes, I know that road, it leads to the grave, and beyond a certain point there are no detours, no returns?" If nurses and doctors may not do this much, what business have they in the world? The incurable are incurable, and the mission of each of these professions should give as much right to draw attention to what needs to be cured and when it can be cured most perfectly and certainly, as it has to exercise the function of cure itself.

This work of teaching the people their needs in respect to their physical ills must not be done in a selfish way, nor yet with a view of gaining patients for your friends among the doctors, but on the broader, higher basis of Christian duty. They need the information you can give; you must give it, not as a dole, but emphatically, actively, cheerfully, convincingly, as a part of your opportunity to serve God and man. Your work will affect individuals, your talk communities, and when you have talked your last word and laid your thermometer aside for the last time, the 'Master of all good workmen' will replace your cap with a crown, with the biggest and the brightest star in hers who has talked most effectively.

Cardiac Decompensation: Fatigue Curve of Muscle—In a study of the contraction curve of muscle in twelve healthy persons, five persons with noncardiac diseases, eight persons with compensated cardiac disease and eighteen persons with cardiac decompensation, Buttner noted that, contrary to what occurs in healthy persons following work and subsequent electrical stimulation of a muscle (gastrocnemius), in most persons with cardiac decompensation the muscle soon shows a marked fatigue curve. He believes that this observation indicates that in cardiac decompensation the metabolis in the muscles is pathologic.

LARYNGEAL OBSTRUCTION*

By W. A. Weldon, M. D., Glasgow.

In presenting this paper no effort has been made on my part to present it in the same manner as I would to a section composed entirely of Ear, Nose and Throat doctors. So to some of you my remarks may seem badly arranged and elementary.

Modern text books tell us that Laryngeal Obstruction presenting dyspnea as a symptom may be caused by many conditions as edema, burns by acids or alkalies, paralysis of the vocal cords, fixation of the crico-arytenoid joints, so on, and etc., ad infinitum. But for us, who are not trained in the use of the laryngoscope or even the laryngeal speculum, necessary to make a direct examination of the larynx, it is well to remember that the common cause of laryngeal dyspnea is diphtheria or membranous croup.

It would be imposing on good nature to go into detail concerning the initial symptoms and physical signs of laryngeal croup as caused by the Klebs-Loeffer bacillus. You are all acquainted with the croupy cough, husky voice, coming on usually at night, labored breathing, with or without an elevation of temperature; symptoms somewhat relieved in day time, but worse the following night. A membrane is always present, but may or may not be visible. In practice I am usually unable to demonstrate it except with the laryngeal speculum. A smear and culture taken from the hypopharynx is often misleading and non-dependable. I always make a smear and culture as a routine but am never influenced, as to my treatment, by the report.

The treatment of laryngeal dyspnea is similar in a general way to the treatment of other conditions, first find and remove the cause if the symptoms have not progressed to the point, when the accessory muscles are brought into play, necessary for respiration.

If diphtheria, give early large and often repeated doses of potent antitoxin. If retropharyngeal abscess, secure drainage. If urticaria, follow general lines. When the accessory muscles or, I might say, the voluntary muscles of respiration are acting, our line of procedure must change regardless of diagnosis and previous treatment. This might be called the second stage and is recognized by the following symptoms and physical signs: restlessness, increased respiratory rate, indrawing of suprasternal notch, supra-clavicular fossae, intercostal spaces and epigastium. When these symptoms are observed over a short length of time there is one and only one treatment: do a well planned, low tracheotomy. I am aware of the fact that many of you would consider an intubation, but unless you are in position to keep the patient under constant supervision in order to reinsert the tube it is a hazardous risk. Besides tracheotomy secures adequate drainage from the larynx which is beneficial in all cases of Laryngeal Obstruction. No drugs are indicated. Sedatives, which are so often given, are positively dangerous as they embarrass respiration.

I now approach with sincere humility the question, which prompted me to attempt a paper on this subject; when and how to do a tracheotomy. I say humility, because I feel sure that I have seen cases that could have been saved, had the answer to these questions been definitely fixed in my mind. Contrary to popular opinion, among most doctors when to, is not so easy to determine as how to, do a tracheotomy. Remember this: When you have an indrawing of the supra-sternal notch, this means laryngeal obstruction with life depending on the voluntary muscles of respiration. Then is the time to open the trachea. We never have this condition in pneumonia, asthma or other pulmonary diseases. Do not wait for cyanosis, which comes suddenly and late. Cyanosis too often mean approaching death.

How to do a tracheotomy is not difficult. Any good doctor with composure, can open the trachea. I say composure because this is necessary in time of a crisis. And a tracheotomy is always overcoming a crisis.

Have someone hold the patient's head well extended in straight line, inject novocain along line of incision. Never consider for a moment the use of general anesthesia. This means death on the table, due to paralysis of the accessory muscles, which are now playing such a prominent part in sustaining life. Locate the thyroid cartilage, commonly called Adam's apple, and supra-sternal notch. With head held straight, make an incision in midline between these two points, push back muscles to each side of trachea, ligate blood vessels and with finger locate tracheal rings. The Cricoid ring is just below the Adam's apple and is the only complete ring of the trachea. Avoid cutting this as you are liable to have a stenosis of the trachea following. Make a good incision in trachea below the cricoid ring and insert a silver tube, which is the only satisfactory tube for various reasons. The tube should be somewhat smaller than the trachea.

The foregoing is a planned tracheotomy. An emergency tracheotomy done when the patient is moribund, is quite similar. If necessary without anesthesia, without instruments, except an unsterile pocket knife, make an incision in midline from Adam's apple to top of breast bone, locate rings and open trachea, disregarding blood vessels. Hold open with rubber tube, fingers or ordinary sewing thread through each side of wound, tied around neck. The after-treatment of tracheotomized patients requires a great deal of care and should be entrusted to the doctors and nurses, who have had experience in the handling of such cases.

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*Read before the Third District Medical Society at Bowling Green.

HYDATIDIFORM MOLE*

By Chas. F. Clayton, Jr., Balkan

Hydatidiform Mole is a cystic degeneration of the chorionic villi. This condition has been only rather recently scientifically understood. Back as far as 1276, we have records showing that the condition was seen.

Ambrose Pare declared that the Countess Margarett brought forth at one birth 365 infants, 182 of which were said to be males, 182 were females and the odd one an hermaphrodite. Pepys records in his diary that he visited the house in which this remarkable delivery took place, and saw the brass platters on which the children were carried before the bishop of the diocese for baptism.

This condition, is said to occur about 1 in 3-4000 pregnancies, it occurs at a time when the chorionic villi cover the ovum, around about the third month.

Various theories have been advanced to explain the mechanism by which it takes place, but it is pretty generally believed, that some degeneration takes place in the blood supply to the villus with a consequent atrophy of the cells of the villus and a degeneration which may be cystic or fibromyxomatous, as a consequence of this change, the pregnancy dies and is usually thrown off by abortion.

The three prominent symptoms usually marking this condition are:

1. Rapid increase in size of the uterus.
2. Discharge of blood or bloody serum.
3. Passage of vesicles per vaginum (rare).

This as stated before usually takes place around the third month, if this were all, there woud not be much to it, but there is one characteristic which makes this a potentially serious condition, that is, the development of chorioepithelioma. The first scientific study of this was by Saenger in 1888, he considered it a disease of the decidua and called it sarcoma, Marchaud however a little later described the histology of the condition more exactly and showed that it is not a disease of the decidua but of the chorion. The chorion being a derivation of ectoblast, classifies it as a carcinoma. It is to be noted that the chorionic villus is covered by two layers of cells, one an inner consisting of polygonal cells with definite cell margins and a pale staining nucleus and another layer consisting of a mass of cells with a uniform protoplasm not showing any cell margin, but all fused together, the nuclei being irregularly placed retaining the stain much better than the former. The inner known as the Longhans layer of cells and the other the syncytial layer. The normal function of these cells is to dissolve their way into the uterus so that a union of circulation takes place between uterus and ovum through the medium of blood spaces.

The villi may project well into the inner wall of the uterus, and are surrounded by blood in the blood spaces.

Chorioepithelioma occurs in one third to one half of the cases of all hydatid mole, but it may occur after an ordinary abortion, a tubal pregnancy or a normal pregnancy at term.

It is presumed that portions of these Longhans and Syncitial cells instead of being entirely cast off adhere to the uterus, where they proliferate and invade the uterus and its blood vessels. Indeed it is possible to have chorioepithelioma spring up in distant organs and be absent in the uterus. The reverse is practically always the case.

Chorioepithelioma has been found primarily in the ovary of the virgin, in the dermoid tumors, and even in the testicles in some rare instances, the explanation is not known.

The usual course is as follows: A chorioepithelioma of the uterus, given a case, follows the delivery of a hydatidiform mole or an ordinary abortion, and where it seems that all of the ovum has been passed, in two or three weeks she may begin to bleed. The presumption is that she has retained placental tissue and so a curetage is done and the scrapings examined. in the ordinary case of retained placental tissue, the microscope will diagnose it, but in a case of this sort Lonhans cells and Syncitial cells are not to be found.

In many cases, the diagnosis is not reached so easily for it is possible to have Longhans and Syncitial cells along with ordinary placental tissue and thus be confusing. Again, it is possible to have these cells in a perfectly benign case, or where they are not found, to be followed by a very malignant course.

It seems from this that there must be two types of cases—Benign and Malignant, just where the relation or balance between the two types is, is not definitely proven, but from the course of certain cases it seems that there may be an antigen which reacts against the syncitiolysin in a definite way, thus rendering certain cases benign.

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*From the Surgical Department, University of Pennsylvania.

It has been noticed that in some cases where metastasis has occured from a chorioepithelioma within the uterus that by thorough removal of the uterus, these metastatic masses shrink away and the patient recovers. This is not the rule however for in cases a fatal issue is frequently reached in from four to eight months.

In a given case where curetage has been done for bleeding, following an abortion or mole, there may be a temporary cessation of the bleeding only to be followed in a week or two by more and the bleeding may be mild or exsanguinating. The uterus may even be perforated by the tumor or the curette and this should be borne in mind in such a case.

These tumors are usually situated in the fundus and are rather soft, ragged and bloody, and very dark in color. They may be absent in uterus and present in the vagina. Metastasis takes place via the blood vessels of the uterus and the lungs are frequently affected, in as much as the curetings do not always help to make a diagnosis.

In a given case what is to be the policy?

(a) If the initial curettings show large numbers of grouped Longhans and Syncitial cells, immediate operation is advisable, especially if a hydated mole preceded the bleeding.

(b) If the curettings show suspicious, although not numerous, characteristic cell collections, operation is strongly considered, especially where mole preceded.

(c) If the symptoms have followed an abortion, it is justifiable to wait to see if further bleeding ensues, which will take place in two or three weeks. if the disease reoccurs, though the patient, should be kept under observation for several months, even if the menses are normal. If after the initial curettage, the symptoms reoccur and the findings are the same, radical operation is indicated. The operation is to be hysterectomy including tubes, ovaries and cervix if operatable. Once the diagnosis of choioepithliona is definitely made ,the sooner radical operation is done, the better.

If not operatable, Radium.

During my eighteen years of industrial work and general practice at Balkan, Kentucky, I had four cases of Hydatidiform mole, three were operated by cesarotomy and one curetted and radium used, two of the cases treated by cesarotomy, I am not able to hear from, one cesearean and the radium case are living and well, following is the present history:

Mrs. G. W., address Miracle, Ky., age 27, occupation house wife, weight 115, height 4 ft. 6 in., number of children, 2; miscarriages 1; age of last baby, 8 years, operation cesarotomy 1923, menses now regular.

Mrs. H. T., address Miracle, Kentucky, age 25, housewife, weight 128 pounds, height 5 ft. 5 in., number of children 3, miscarriages 1 curetted and radium used March, 1929, dosage 37.5 milligrams filtered through one mm. of brass and 2 mm. rubber, duration, 15 hours. This small dose did not sterilize her, as she has been menstruating regular for the past eight months.

TWO CASES OF SEASONAL HAY FEVER TREATED WITH COMPLETE RELIEF OF SYMPTOMS*

By J. Murray Kinsman, M. D., Louisville.

The treatment of seasonal hay-fever by means of graded doses of pollen extracts, is a standardized and accepted procedure. Some cases show no benefit whatever, most cases show improvement of a greater or lesser degree, and a relative smaller proportion of cases have complete relief from symptoms. It is relatively uncommon, however, for hay-fever to be entirely prevented during the pollinating season, by pre-seasonal and co-seasonal treatment, so that it may be of interest to consider two cases in which such a fortunate outcome resulted.

Case I. A man of 26, a clerk by occupation, consulted me late in March, 1928, complaining of late spring or early summer hay-fever. His family history was entirely negative for allergic disease. He himself had had no previous allergic phenomena — neither urticaria, asthma nor angioneurotic edema—prior to the onset of his hay-fever. His occupation was by its nature, confining, and he got very little exercise in the open air, spending most of his time in his offices.

His symptoms began, however, while he was at Atlantic City, about the middle of May, 1916. During the succeeding 12 years, they recurred at about the same time—that is, the middle of May—and lasted from 4 to 6 weeks, never missing a year. In 1925, he was tested for sensitivity by Dr. Francis Rackemann, of Boston, Mass., who, in a reply to a letter from me, reported the following reactions:

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*Read before the Jefferson County Medical Society, May 5, 1930.

Dilutions.	Timothy	Ragweed	Orchard Grass	Birch	Red Top	Plantain
1-100	10x20mm. ++++	0	11x6mm ++++	0	10x10mm. ++++	5x2 mm. +
1-500	15x15mm ++++	0	9x4mm. +++	0	9x3mm. ++	0
1-1000	9x20mm +++	0	7x15mm. +++	0	0	0
1-5000	8x3mm. ++	0	0		0	

The zone of redness varied proportionately in size with the area of the wheals, which showed marked amoeboid tendency, and irregular outline.

That spring (1925) Dr. Rackemann gave him a series of treatments with timothy and orchard grass, through April, May and early June. He had "only moderate improvement." In the two years following, however, he received no treatment, but had less trouble than in the preceding years.

When I saw him, in 1928, I first tested him with diagnostic pollens whose concentration I do not know. The results are as follows:

Timothy	Orchard Grass	Red Top
10x10mm +++	8x7mm. ++	7x3mm. +++

In this case, orchard grass produced a weaker reaction than did red top, although Dr. Rackemann had found the opposite.

From March 30, 1928, until May 16, he received 16 bi-weekly injections of the Arlington Chemical Co's. grass mixture, consisting of June grass, red top, orchard grass and timothy. Slight local reactions followed each injection. He developed not a trace of any hay-fever symptoms during that spring or summer.

One year later, in March, 1929, he returned for pre-seasonal treatment. Skin tests then were as follows:

Timothy	Orchard Grass	Red Top	June Grass
10x7mm. +++	8x7mm. ++	12x11mm. ++++	20x9mm ++++

He was, therefore, still sensitive to pollens.

He received, again, 16 bi-weekly graded injections of the same grass-mixture used the year before, and remained absolutely free from symptoms throughout the summer. He has not returned this year for treatment, presumably because he wishes to see whether he will be symptom free this year without treatment.

One may raise the question as to whether this patient would not have been free from symptoms without treatment, in view of the fact that his hay-fever was decreasing in severity in the two years preceding treatment. This is, of course, possible, although I think not probable, because of the fact that his skin tests showed marked sensitivity before treatment was begun, both in 1928 and 1929.

Case II. This patient, a business executive of 65, had had fall hay-fever and asthma for several years (probably 10-12). The attacks began in middle of August of each year and lasted until late September. In the first years of the disease, hay-fever alone was present, but after a time asthma began to develop. During the remainder of the year, he was entirely free from both. The attacks had shown no decrease in severity. He gave no personal or family history of allergic phenomena. He played a great deal of golf, and was accustomed to spend much of his time in the open air.

Skin tests were as follows (July, 1928).

Elder	Giant Ragweed	Giant and Dwarf Ragweed	White Oak	June Grass	Timothy
0	++++	++++	0	+	0

He received, from July 20, 1928, to September 11, 21 injections of Arlington mixed giant and dwarf ragweed pollen extract, in graded doses at intervals of 2 to 3 days. He remained entirely free from symptoms of hay-fever though occasionally having slight "touches" of asthma, never severe enough to prevent sleep or require medication.

One year later, in July, 1929, he still reacted strongly to the ragweeds. This time, he was given 28 graded injections of the same mixture, at 2 or 3 day intervals, from July 18 to September 18. In this year, too, he had absolutely no symptoms of hay-fever, but a slight amount of asthma, perhaps slightly more marked than previously, but still quite mild in comparison with what he had been accustomed to.

HYPERTENSIVE HEART DISEASE WITHOUT HYPERTENSION WITH ILLUSTRATIVE CASE REPORTS*

By Emmet F. Horine, M. D., and Morris M. Weiss, M. D., Louisville.

Patients with cardiac enlargement but no organic valvular lesion, adhesive pericarditis or severe anemia are often encountered with normal or low blood-pressure who, nevertheless, have had previous hypertension which explains the cardiac enlargement. Even though the former level of the blood-pressure is unknown it is our contention that such individuals always present convincing clinical or pathological evidence of a pre-existing hypertension. Aside from the otherwise unexplained cardiac hypertrophy these patients may show ophthalmoscopic signs of pervious hypertension, impairment of renal function or even uraemia, a suggestive roentgenologic cardiac silhouette, coronary types of electrocardiograms as are so often found in the known hypertensive individuals and finally autopsy discloses arteriosclerotic or primary contracted kidneys which always evidence a persisaent hypertension during the life of the individual.

Because of the normal or reduced pressure found when first examined these patients frequently are classified wrongly. If an apical systolic murmur is present a diagnosis of "mitral insufficiency" is made. If a murmur at the base is heard some other valvular diagnosis follows while if no murmur is audible the diagnosis may be "chronic myocarditis" or another equally obscure entity. The American Heart Association (1) merely suggests that these persons be placed in the group of "unknown etiology." The actual and really alarming frequency of hypertensive states is undoubtedly obscured to a great degree because of such wrong classifications.

There are multiple and varied factors that may either temporarily or permanently lower the blood-pressure. Any acute infection will result in some fall in arterial pressure the degree of the reduction in pressure being dependent upon the duration and severity of the infection. Chronic infections and wasting diseases likewise cause a lowering of the pressure. The anemias, exhaustion, starvation, shock and collapse are all factors that lead to hypotension. The onset of myocardial failure may be accompanied by a fall in blood-pressure. As illustrated by one of the cases reported hemorrhage such as intestinal or nasal will cause a marked fall in pressure. In hypertensive individuals an acute coronary occlusion is the complication that most often produces a marked and often permanent lowering of the blood-pressure. In three of the six cases herewith reported, a coronary occlusion was undoubtedly the chief factor which resulted in the reduction of the pressure. Were such persons examined at the time when the blood-pressure was low, the true cause for the cardiac hypertrophy might be considered obscure. However, either the previous or subsequent history or clinical or pathoogical study reveals the true nature of the cardiac enlargement.

The following case illustrates the clinical picture of an individual with hypertensive heart disease but without hypertension:

Case 1. White, male physician, aged 65, consulted us on April 25, 1927. His family history was unimportant.

He had never been seriously ill until three years ago when he had an influenza. Following this he became decidedly conscious of shortness of breath accompanied by palpitation. He was unable to exercise without provoking distgreeable symptoms. The previous level of blood-pressure was unknown.

The important physical findings were marked cardiac enlargement to the left, moist rales at both lung bases posteriorly, an enlarged tender liver and slight oedema of both lower limbs. The ventricular rhythm was irregular, an occasional premature contraction being present. His blood-pressure was 124-78 mm. Hg. with a pulse rate of 80.

His electrocardiogram showed slurring and widening of the ventricular complexes in all three leads. The T wave of lead I was inverted with an upward convexity of the S-T interval. The T wave of leads II and III was upright. An electrocardiographic diagnosis of intraventricular block of the right bundle branch type was made.

He finally died of congestive heart failure without there being any material change in his blood-pressure.

The following five selected case reports are presented for the purpose of illustrating certain proofs that Case No. 1 should be placed in the hypertensive group even though his blood-pressure was normal when examined. They represent type cases selected from a large group under study at the present time which will be reported elsewhere.

Case 2. Male, white, salesman, aged 60, was first seen on April 21, 1929 in consultation with Dr. A. E. Cohen. For several years he had been told that he had high blood-pressure. For the past two years he had frequent attacks of anginal pain. In January, 1929, he consulted an opthalmologist because of gradual dimness of vision.

Ophthalmoscopic examination by Dr. A. O.

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*Read before the Jefferson County Medical Society, December 2, 1929.

Pfingst revealed atheromatous retinal vessels. There was a large hemorrhagic area on the temporal side of the left retina. The blood-pressure at that time was 194-110 mm. Hg. Subsequent blood-pressure measurements always showed a distinct hypertension.

In the morning of April 21, following excitement, he experienced substernal pain with intense epigastric oppression, became dyspneic and prostrated. When examined he had a sallow color, anxious expression and was slightly dyspneic. The heart was moderately enlarged with a short systolic murmur at the apex. The rate was 38 per minute with a regular rhythm and the blood-pressure was now 120-100 mm. Hg. No precordial friction rub was audible. The lungs were clear, the liver slightly palpable but there was no edema of the feet. He was admitted to the City Hospital. Electrocardiographic examination showed typical coronary occlusion T waves in all three leads. The roentgenogram revealed moderate generalized cardiac enlargement involving chiefly the left ventricle. The blood Wassermann was negative. The urine, the blood chemistry and the blood count were normal. Three days after admission the blood-pressure was 136-76 mm. Hg., the pulse rate being 80 per minute and regular. A week later the blood-pressure was 176-92. Two weeks after admission he left the hospital and the city. His physician reported that in August, 1929 his blood-pressure was 164-90 mm. Hg. and that he died October 2, 1929 in an attack of pulmonary edema.

Case 3. White, male, married, aged 60, automobile dealer, referred for examination by Dr. J. E. Bird, of New Albany, Indiana, on April 6, 1926. The family history was suggestive of a familial tendency to hypertensive heart disease.

Aside from measles, he had never been sick a day until six months ago he began to notice substernal pain occurring with excitement or exertion. A long conversation would be followed frequently by pain. He has always eaten heartily and never taken much exercise. Three months ago shortly after retiring, an attack of substernal pain began which, though not extremely severe, was constant for eight hours and was accompanied by difficult breathing. There was profuse diaphoresis with collapse and an irregular, weak and thready pulse. For several days after this attack a blood-tinged sputum was present and a slight increase in temperature noted. Recent estimations of his blood-pressure prior to his long attack of sub-sternal pain had shown it to be about 140 but immediately after the seizure it fell to 110-60 mm. Hg. The irregular heart rhythm persisted for two weeks following his attack.

Physically the chief finding was a marked cardiac enlargement as shown by his orthodiagram. The sounds of the heart were faint but no murmurs were detected. His blood-pressure was 126-80 mm. Hg. with a regular ventricular rate of 84.

His electrocardiogram showed a negative T wave in lead I with slight upward convexity of the S-T interval, a positive T wave in leads II and III, slurring of the Q-R-S complex in all leads and a negative P wave in lead III. A diagnosis of acute coronary occlusion is fully justified from his clinical history and the "coronary T" as found in lead I is only an added link in the chain of evidence.

With rest, relaxation and a low physical level of existence improvement in his condition has been gradual. The blood-pressure, when he was seen in October, 1927, showed definite hypertension being 154-104 mm. Hg.

Case 3 illustrates that when an individual with low blood-pressure and cardiac enlargement is observed over a sufficient length of time the blood-pressure may reach an elevated level which must have been present at some previous period. In Case 2 the previous level of blood-pressure was definitely known to have been elevated. Had case 1 recovered from his congestive heart failure and lived for a sufficient time his blood-pressure also may have risen slowly.

Persons who have had hypertension and who experience an acute coronary occlusion do not always show a return to abnormal levels as did Cases 2 and 3. Often the level of blood-pressure remains relatively low for long periods of time as illustrated by the following case:

Case 4. White, male, merchant, aged 48 consulted us on June 3, 1929. Neither his family history nor previous illness was of importance.

He stated that he had considered himself to be in perfect health until three days previously when suddenly, after parking his machine, he had experienced a peculiar pressing sensation behind the sternum. This pain lasted five minutes. He has had several similar attacks the last one, experienced today, being quite severe.

Aside from slight cardiac enlargement there were no physical findings of importance. His blood -pressure was 190-120 mm. Hg., with a pulse rate of 112.

His electrocardiogram showed slight widening of the ventricular complexes.

Two days after our first examination he had an attack of severe agonizing substernal pain which lasted for six hours being only partially controlled by morphine. His blood-pressure fell to 124-92 mm. Hg. On the day following his attack of pain his leucocyte count was 20,000 and he had a temperature of 100.4° F.

He spent six weeks in bed and then slowly resumed slight physical activity. The blood-pressure never became elevated. At present moderate tachycardia and substernal oppression are manifest with exertion but otherwise he appears normal. His blood-pressure on November 7, 1929 was 118-80 mm. Hg. with a ventricular rate of 100.

Were the patient whose history has been recorded above (Case 4) to be examined by someone unfamiliar with his previous level of blood-pressure the presence of cardiac enlargement coupled with a description of a typical acute coronary occlusion would most certainly justify his inclusion in the hypertensive heart group.

Given a patient of the type described in Case 1 with cardiac enlargement and normal blood-pressure whose previous level of blood-pressure is unknown and who never manifested any tendency to hypertension while under observation autopsy studies frequently show varying degree of arteriosclrosis throughout the body but especially in the kidney just as in the known hypertensive cases. Such arteriosclerotic changes in the kidney constitute the so-called primary contracted kidney. When such a kidney is found at autopsy we can definitely say that hypertension existed at some time during the life of the individual (2, 3). The following case illustrates this point:

Case 5. Male, white, laborer, aged 72 was admitted to the City Hospital on June 1, 1929. For the previous two years he had progressive dyspnoea, orthopnea and oedema of the feet. His blood-pressure was unknown.

On admission there was dyspnoea and orthopnea. The heart was markedly enlarged. The sounds were distant, there was a blowing systolic murmur at the aortic area and the ventricular rate was totally irregular. The blood-pressure, as well as could be obtained in the pressure of the auricular fibrillation was 130-60. There was marked edema of the legs and thighs. The electrocardiogram revealed low voltage and slight slurring of the ventricular complexes in all three leads. Roentgenological examination showed considerable cardiac enlargement involving chiefly the left ventricle. The blood Wassermann was negative. The urine had a specific gravity of 1004 with albumin and casts. The urea nitrogen was 13.8 mg-100 c. c. The patient died suddenly five days after admission.

Autopsy revealed cardiac enlargement, the heart weighing 590 gms. The vessels of the heart were beaded and firm. The myocardium was reddish brown and extremely firm. On section fine bands of pale yellow connective tissue were seen on the cut surface. The valves were normal aside from arteriosclerotic plaques. The kidneys each weighed 130 gms. They were flabby and on section the cortex and medulla were fairly well differentiated. The capale stripped with difficulty leaving a fine granular surface.

The effect of hemorrhage in reducing blood-pressure temporarily is well recognized. We have many times had an opportunity to observe hypertensive patients who, following a free nasal or intestinal hemorrhage, showed a marked fall in pressure. Depending largely upon the amount of blood lost the blood-pressure will later rise quickly or more slowly. Case 6 will illustrate the type of blood-pressure curve obtained when the hemorrhage is relatively large. Were such an individual examined shortly after the hemorrhage the true cause of the cardiac enlargement might be obscure. However, if the history of hypertension could be obtained or if the person were followed for a sufficient period of time the true basis for the enlargement could be determined.

Case 6. White, male physician, aged 64, first consulted us on June 21, 1926. Dr. A. M. Leigh was later associated with us in handling him. There was apparently nothing of significance in his family history.

The only serious illness was typhoid fever, which he had when twenty-five years of age. His previous work as a country practitioner had been extremely arduous although during the past few years, since moving to the city, he had reduced the volume of his work materially.

He had known that his blood-pressure had been constantly elevated for more than five years but there were no symptoms until two years ago he had a hemorrhage from the bowel which left him weak for many days. Moderate dyspnoea recently became noticeable with exertion. Occasionally he has been conscious of a sense of oppression in the chest and upper abdomen.

Aside from slight cardiac enlargement and moderate peripheral arteriosclerosis physical findings were negative. However, his blood-pressure ranged from 204 to 240 systolic and from 130 to 136 diastolic.

His electrocardiogam showed an occasional ventricular premature contraction. The T wave of lead I was inverted and there was an upward convexity of the S-T interval ("coronary T").

Occasionally he would have a nasal hemorrhage which was followed by a temporary fall in blood-pressure. In the early winter of 1927, following a mild influenza, he developed a moderate degree of congestive heart failure as evidenced by oedema of both lower limbs and troublesome shortness of breath. Rest in bed was required and during this period there was a moderate reduction in blood-pressure to 180-115 mm. Hg. With improvement the blood-pressure again rose to its previous level. In January of 1929 he again experienced a severe intestinal hemorrhage and the blood-pressure reached a normal level, becoming 120-80 mm. Hg. In two weeks the pressure had reached its previous high level, being 190-120 mm. Hg. During March, 1929, he succumbed to a cerebral hemorrhage.

Gradually, over a period of years, we have reached the conclusion that a patient with cardiac hypertrophy, but without any organic valvular lesion present or other factor that might produce the cardiac enlargement, must be placed in the hypertensive group even though the blood-pressure is normal or lower than normal. Our reasons for such a conclusion have been stated above and illustrated by the case reports. Further in twenty years of recorded blood-pressure observations we have had personal opportunity to watch certain patients who first merely presented hypertension, later gradually developed cardiac hypertrophy, still later presented electrocardiographic evidence of coronary changes and who, following an acute coronary occlusion or the onset of congestive heart failure, finally showed a marked lowering of the blood-pressure. In the literature there have been occasional references to the probable existence of a previous hypertension which would explain a cardiac enlargement occuring without obvious cause in a person who had a normal or low blood-pressure at the time of the examination. However, we have no knowledge of any attempt, except the present one, to assemble the basis for such a conclusion in one study from a clinical point of view. Geoffrey Evans (4) concluded that cardiac hypertrophy without organic valvular lesion or chronic pulmonary disease found post mortem is good evidence of a raised blood-pressure during life. Ophuels (5) called attention to the fact that pre-existing hypertension could explain the cardiac hypertrophy in such cases as described above. He merely states in referring to a clinical study of such cases by Christian (6) that "his patients must have suffered from continued hypertension at one time or another, because with the exception of valvular lesions—which were not present—this is the only condition which can reasonably explain the hypertrophy of the left side of the heart—which was said to have been present." Again in a later study, Ophuels (7) says "The presence of cardiac hypertrophy in these cases has been regarded by us as evidence of the previous existence of high blood-pressure for a sufficient period of time to produce such hypertrophy." Cabot (8) in a pathological study includes in the classification of hypertensive cardiovascular disease "all necropsied cases showing a hypertrophied and dilated heart associated with nephritis, with arteriosclerosis, with both or with neither, but without valvular disease, chronic pericarditis, and any other recognized cause of cardiac enlargement." Bell and Clawson (3) state that a diagnosis of primary hypertension may be made clinically "in a person suffering from chronic cardiac disease, with low or normal pressure, if there is a demonstrable cardiac hypertrophy of the left ventricular type not associated with any disease known to cause hypertrophy."

It seems unnecessary to cite many references to the valuable evidence of hypertensive states obtained by ophthalmoscopic examination. When retinal changes once occur they persist as mute evidence of arterial hypertension regardless of whether the pressure remains high or falls to subnormal levels. O'Hare and Walker (9) have shown that "the finding of retinal arteriosclerosis in patients with a normal or low blood-pressure probably indicates the existence of a previous hypertension with subsequent myocardial weakening or loss of vascular tonus." In Case 2 the retinal changes alone would have been sufficient for a diagnosis of hypertensive heart disease during the period that his blood-pressure was normal.

In addition to the retinal evidence of diffuse vascular disease in hypertension Kernohan, Anderson and Keith (10) have demonstrated characteristic changes in the arterioles of the voluntary muscles of such ambulatory patients. We are planning to make such a study of patients of the type of Case 1.

We believe that we have furnished sufficient clinical and pathological evidence in the type cases reported to justify our contention that a diagnosis of hypertensive heart disease should be made in an individual with cardiac enlargement and low blood-pressure but no organic valvular lesion, adhesive pericarditis, severe anemia or any other recognized cause for such hypertrophy.

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BOOK REVIEWS

THE NEWER KNOWLEDGE OF NUTRITION—By E. V. McCollum, and Nina Simmons. Price: $5.00. John Hopkins School of Public Health Baltimore.

The authors have adhered to the historical method in preparing this new fourth edition which brings the subject up to date from the standpoint of fundamental research. Among the most striking features of the new edition are the recent discoveries concerning the etiology and treatment of anemias, both secondary and pernicious; discussion of all that is known about the dietary requirements for blood regeneration; the experience of recent years in the control of goitre through the provision of iodine; the recent researches on the relation of diet to bone development,the calcification of fractures, as well as those on the prevention of rickets. The fascinating story of the discovery of the mother substance of vitamin D, viz., ergosterol, the active principle of cod liver oil, which gives it its therapeutic value, is set forth.

The physiological effects of light and the changes which it effects in ergosterol are included, and the present status of light therapy through the use of sunlight and the various sources of ultra-violet rays, as well as Dr. Luce's discoveries on the nutritional influence of infra red rays, are discussed in full.

New Fourth Edition—The MacMillan Co., New York, Publishers.

ANNOUNCING EASTMAN MEDICAL FILMS—Eastman Teaching Films, Inc.

The American College of Surgeons has just called to our attention the splendid motion picture films which have been produced by the Eastman Teaching Films, Inc., in cooperation with the American College of Surgeons.

We urge any individual or county society if they are interested in the use of such films to write directly to the Eastman Teaching Films, Inc., for descriptive pamphlets or information as to rental or sale price.

WOMAN'S AUXILIARY NOTES

PROGRAM OF SEVENTH ANNUAL MEETING OF THE WOMAN'S AUXILIARY TO THE KENTUCKY STATE MEDICAL ASSOCIATION HELD AT WEST HALL, WESTERN STATE TEACHERS COLLEGE

Bowling Green, Kentucky

September 15, 16, 17, 18, 1930

Monday, 9:00 A. M. to 4:00 P. M., September 15, West Hall—Registration.

Monday, 2:30 P. M., September 15, West Hall.—Executive Board Meeting. (All County Presidents and State Officers are urged to be present).

Monday, 8:00 P. M., September 15, Library Hall—President's Report to the House of Delegates.

Tuesday, 9:00 A. M. to 4:00 P. M., September 16, West Hall—Registration.

Tuesday, 9:00 A. M., September 16, Library Hall—Joint Meeting with the Kentucky State Medical Association—Installation of President of Kentucky State Medical Association.

Tuesday, 9:30 A. M., September 16, West Hall—Opening Session, Woman's Auxiliary:

Presiding Officer—Mrs. P. E. Blackerby, Louisville, President Woman's Auxiliary, Kentucky State Medical Association.

Song—America.

Invocation—Rev. Chas. G. Leavell, Rector of Christ Church, Bowling Green.

Address of Welcome—Mrs. John H. Blackburn, Bowling Green.

Response to Address of Welcome—Mrs. Hugh N. Leavell, Louisville.

Roll Call of Delegates—

Minutes.

Reports of Officers.

Reports of County Delegates.

Report of Historian—Mrs. W. F. Boggess, Louisville.

Address: "Hygeia, The Health Journal"—Mrs. R. N. Herbert, Chairman National Hygeia Committee, Nashville, Tennessee.

Address: "Posture in Relation to Child Health"—Dr. Elfie Graff, Georgetown.

General Business.

Recess.

Wednesday, 9:00 A. M. to 4:00 P. M., September 17, West Hall—Registration.

Wednesday, 9:30 A. M., September 17, West Hall—Second Session

Unfinished Business.

Report of Delegates to the Woman's Auxiliary to the American Medical Association—Mrs. George A. Hendon, Louisville.

Report of Delegates to the Woman's Auxiliary to the Southern Medical Association—Mrs. H. M. Meredith, Scottsville.

New Business.
Report of the Nominating Committee.
Election of Officers.
Introduction of New Officers.
Address of the President—Mrs. E. B. Houston, Murray.
Announcements.
Recess.
Wednesday, 1:00 P. M., September 17, Country Club at Bowling Green—Annual Luncheon.
Toastmistress—Mrs. P. E. Blackerby, Louisville.
Greetings from the Kentucky State Medical Associotion by:
Dr. Granville Hanes, President, Louisville.
Dr. W. B. McClure, President-Elect, Lexington.
The Advisory Committee:
Dr. A. T. McCormack, Louisville,
Dr. V. A. Stilley, Benton,
Dr. W. E. Gardner, Louisville.
Address: "The Questions—Who and Why?—Mrs. J. Newton Hunsberger, President, Woman's Auxiliary, American Medical Association, Norristown, Pennsylvania.
Wednesday Evening, September 17, Auditorium—Joint Meeting with the Kentucky State Medical Association—Public Address—Dr. George Dick.
Thursday, 9:30 A. M., September 18, West Hall Post Convention Board Meeting — Mrs. E. B. Houston, Murray, Presiding.
(All County Officers should attend this meeting to assist in planning the work for 1930-'1931.

JEFFERSON CONSIDERS HOSPITAL SEWING UNITS*

By Mrs. C. G. Arnold, Louisville.

To promote more active interest in the Jefferson County Auxiliary, our President, Mrs. Bates, and several of the members have suggested a plan which they have asked me to present to you for your consideration.

Last winter, we had the Study Course in the Medical and Health Laws taught by Mrs. John K. Freeman. These proved very satisfactory although the classes were not as large as we had hoped, but as the women gradually learned of them, they became interested and attended. Some of our good members did not miss a single lesson.

What I want to talk to you about now,is the forming of a Sewing Unit. Some of you, probably, belong to one of the Sewing Units in the American Legion Auxiliary or your Church Auxiliary and know what I am talking about.

Our object would be to sew for the hospitals—and there is plenty of it to do. Our preliminary procedure would mean this: divide our members into three groups—Central, Highlands and West End—appoint some one in each division to divide their group into units of, say, twenty-five members each. Let these units meet once a month at some member's home and four or five of the ladies in the Unit act as hostesses, splitting the expense of the luncheon, the luncheon not to exceed a certain small amount. Of course, serving the luncheon is only a suggestion that will have to be decided among the members.

We feel that this will create friendliness and comradeship among the ladies. It seems to me, there is no easier and nicer way for women to get sociable and friendly toward one another than in the home of a friend, or perhaps in her own home, with a sewing basket in her lap. Don't you think we are awfully standoffish? We don't even know one another when we meet on the street! And, one of the objects of the Auxiliary is to promote friendliness among the doctor's wives. At the same time we are doing this little charity work for the hospitals, which is always so deeply appreciated, we can be making more friends for ourselves.

Our Money Matters

The amount of money our organization has available, its source and its use are matters of keen interest to every member of the Auxiliary. The Auditorr's Report of the Treasurer's Books for the past year will be found in this issue as the last part of his report for the Kentucky State Medical Association. The Officers of the Auxiliary will appreciate your interest if you will familiarize yourself with this data before coming to the Annual Meeting in Bowling Green so that you may offer helpful constructive counsel and advice on procedure for the coming year.

It is surprising how much has been accomplished on our small dues. Annual dues were first paid at the Frankfort meeting, September 22, 1926. Here $22.00 was collected from 22 members. These members were listed by counties as follows: Christian, Franklin, Harlan, McCracken and Oldham counties, 1 member each; Jefferson county, 10 members; State at large, 7 members. (See page 494, Kentucky Medical Journal, September, 1927). Complete study of the funds of the State Auxiliary is possible by referring to the Auditor's Reports found in the Annual Numbers of the Kentucky Medical Journals, beginning with September, 1927.

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*Presented at the Annual Meeting, Jefferson County Auxiliary, June 2, 1930.

Kentucky Medical Journal
Published Monthly By
THE KENTUCKY MEDICAL JOURNAL
Incorporated

Entered as second class matter October 22 1906, at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price ... $5.00
Edited Under Supervision of the Council

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COUNTY SOCIETY REPORTS

Third District: The Third District Medical Society met with the Warren County Society at the Helm Hotel, Bowling Green, Wednesday, July 9th, at 10:30 a. m.

Report of Clinical Cases

Dr. T. H. Turner reported a case of recurrence of carcinoma of the breast nine years after removal; the initial recurrence involving the recurrent laryengeal nerve with hoarseness, and later with pressure on the brachial plexus.

Dr. E. A. Cherry reported a case of acute carcinoma of the breast in a young woman 24 years old, with mediastinal recurrence within nine months.

Dr. J. H. Blackburn reported a case of right phrenectomy exeresis of the right phrenic nerve in a case of pulmonary tuberculosis.

Dr. J. H.Blackburn exhibited a case of exfoliative dermatitis in a young woman, 17 years old, who had casts of both feet, the hands having thrown off the casts a week previously.

Dr. B. S. Rutherford reported a case of gallop rhythm in a man 65 years old, discussing the etiology of these conditions.

Hon. R. C. P. Thomas, discussed the Workman's Compensation Act.

Luncheon was served at the noon hour at the Helm Hotel, there being twenty-five doctors present.

Dr. W. E. Gardner, Louisville, discussed some Inflammatory and Degenerative Changes of the Central Nervous System Due to Specific Infection.

Dr. A. D. Donnelly discussed Pernicious Anemia. His paper was also discussed by Drs. Neel and G. Y. Graves.

JNO. H. BLACKBURN,
Secretary.

McCreary: The McCreary County Medical Society, at its last meeting, elected the following officers:

President—Dr. A. Bradley.
Vice-President—Dr. D. S. Floyd.
Secretary—Dr. R. M. Smith.
Delegate—Dr J. P. Simpson.
Censors—Dr. Smith, Floyd and Simpson

Jefferson: The Jefferson County Medical Society has adjourned until the second Monday in September. At that time a renewed invitation will be extended to every physician in Kentucky to attend these meetings when in Louisville.

E. F. HORINE.

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VOL. 28. No. 10 BOWLING GREEN, KY., OCTOBER, 1930

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(Continued on Page Five)

Editorial and Business Office, 519 Tenth Street. Subscription Price, $5.00; Single Copy, 50 cents
Entered as second-class matter, Oct. 22, 1966, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rates postage provided for in section 1103, act of October 8, 1917, authorized May 25, 1920
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Kentucky Medical Journal

Being the Journal of the Kentucky State Medical Association

Published Under the Auspices of the Council

Vol. 28 No. 10 Bowling Green, Ky., October 1930

EDITORIALS

THE 1930 MEETING

Every member of the Association who attended its recent sessions at Bowling Green felt the inspiration of the notable buildings of the Western Kentucky Teachers College. Their natural setting and the fine spirit of service which pervades them makes this Institution Kentucky's outstanding contribution to education. The attendance was little more than four times the advanced registration and, in spite of the prevailing economic depression, was amongst the largest from outside of the host county we have ever had.

The program was full of interest. There was not a dull moment. The subject matter of the program as arranged by Doctor Scott, was said by many of those in attendance, to be the cause of their coming to the meeting and they were amply repaid. The essayists had made such careful studies of their subjects, presented them so completely and yet so concisely that the members felt they had attended a real post-graduate course. It was interesting that several members requested the Editor to publish almost every paper on the program in an early issue so they could have the advantage of it.

The meeting of the House of Delegates was full of interest. President Hanes had reduced the number of committees, and most of these made interesting reports which provoked interested discussion. The members of the House of Delegates have awakened to a realization of the important roll they play in the destiny of Kentucky medicine. The tendency which has too frequently prevailed to "leave it to John" was entirely absent. No report or motion was made that did not evoke intelligent discussion, and the final decisions were those of the entire membership.

The Council, for the first time in several years, held daily meetings, provided for interval meetings before the next Annual Session, assumed active control of the Journal and the affairs of the Association, that assures a degree of success that is otherwise unattainable. The Kentucky State Medical Association can only be successful when it is responsible to and controlled by its members. Such control is only possible when the County Societies meet regularly and take a real interest in the conduct of its affairs, when the Delegates really and constructively represent the attitude of those who honored them by election. It should be realized that members should not accept the election as Delegates unless they intend to attend the Sessions. The advice and responsibilities of Delegates, Councilors and other officials are clearly set forth in the Constitution and By-laws and one who accepts this position should either carry through his responsibilities or resign. If this spirit of real service, that was so notably present at the Bowling Green Session can permeate every member of the Association, Kentucky has nothing to fear in regard to its medical and health service of the future.

Much of the success of the meeting was due to the splendid arrangements made for the comfort of those in attendance by President Cherry and his associates of Western Kentucky Teachers College. All of us were interested in seeing the matured vision of this great man in the remarkable plant that he has developed for the education of our youth.

Both of the newspapers of Bowling Green were very generous in the space given our deliberations and the special edition of the Times-Journal containing pictures of the Officers of the Association and the Auxiliary, was a notable journalistic effort.

We believe the meetings at the Teachers Colleges at Bowling Green and Richmond, developed the finest spirit that has yet been attained by the profession. We look forward to an increasing number of similar meetings in future years at our other educational institutions.

THE AUXILIARY

Under the delightful presidency of Mrs. Blackerby, the Woman's Auxiliary of the Kentucky State Medical Association, held its most satisfactory meeting at Bowling Green. The attendance was excellent and the highest degree of interest was maintained throughout. The entertainments provided by the Woman's Auxiliary of the Warren County Medical Society maintained the reputation of Bowling Green for its beautiful hospitality.

Our Auxiliary is hitting its stride. It is seriously considering the problem of educating the public in regard to alliances in medicine and public health and the counties which have active Auxiliaries are making a degree of progress in public confidence that is impossible without them. These devoted and intelligent women are performing an unique service and it is particularly interesting that the press of the state gave them more space than they have given to the medical proceedings themselves because their proceedings were more easily understood by reporters and, therefore, could be made available more readily. It is as interpreters of professional thought that the Auxiliary will find its greatest opportunity.

During the coming year its affairs will be directed by Mrs. Houston, of Murray, and an able corps of officers and councilors. The selection of Mrs. George A. Hendon, of Louisville, as President-Elect, was a particularly happy one. As President of the Jefferson County Medical Society Auxiliary, Councilor for the Fifth District, Delegate to the Woman's Auxiliary of the American Medical Association, she has had a broad experience that will make possible further strides in this organization, in which we are all taking so much pride.

AN INVITATION

The Jefferson County Medical Society again extends to the medical profession of Kentucky, a most cordial invitation to attend its sessions when visiting Louisville. The meetings are held in the City Hospital, which is within walking distance of the hotel districts of the city. The time of meeting is the first and third Monday of each month at 8 P. M. and the advance program will be published in the County Society columns of the JOURNAL. The library of the Society is located in the Medical College Building, at 101 Chestnut Street and a trained librarian is in constant attendance and will gladly assist the visitors in compiling a bibliography on the subjects discussed in the program—for it is by this means the real appreciation of a county society meeting can be secured. "He who would bring home the Wealth of the Indies, must carry the Wealth of the Indies with him." So it is with the doctor, he must carry knowledge to his county society, if he would bring home knowledge.

Under the leadership of the President, Dr. E. F. Horine, with the co-operation of its officers, a most interesting and practical program has been arranged for the year. Any additional information can be obtained by telephoning the Jefferson County Medical Society Librarian, City 1948.

THE SOUTHERN MEDICAL ASSOCIATION

Kentucky for the third time will be host to the Southern Medical Association. November 12-14 with preclinic meetings beginning on the 11th. All the facilities possessed by Louisville, of a professional nature and those provided for recreation will be available to this Association.

Physicians who have attended previous meetings of the Southern Medical need not be reminded that the "last word" in scientific medicine, surgery and public health will be heard. On Tuesday and Wednesday the general clinical sessions will be held and Thursday and Friday the various sections with just enough entertainment and recreation features to make the scientific meeting complete.

The Ladies Auxiliary has planned a splendid program and many social functions. The women physicians will meet at an annual banquet Wednesday evening with Dr. Catherine MacFarlane, of Philadelphia, as the principle speaker.

The exhibits will be a real post-graduate course in the display of the essential armamentarium of the physicians.

There are reduced rates for those who travel the train way, beautiful roads for the automobile and one of the best equipped airports for the air lovers.

DETERMINATION OF ALBUMIN OF CEREBROSPINAL FLUID

Berger describes a simple and rapid method for the quantitative determination of the albumin content of the cerebrospinal fluid. From 2 to 3 cc. of sulphosalicylic acid is put into each of two small test tubes with flattened bottoms. To one of these 1 cc. of cerebrospinal fluid is added, to the other an albumin solution of known concentration is added. When the turbidity is the same in the two solutions, the quantity of albumin added to the second test tube indicates the albumin content of the cerebrospinal fluid. The identical degree of turbidity can be determined either by looking through the test tubes at the same letters or by placing the tubes into a specially constructed colorimetric appartus, the so-called titro-comparator. The practical value of this method has been proved in determining the albumin content not only of cerebrospinal fluid but also of serum and of urine. The results obtained with this method were found to correspond to those that were obtained when Kjehldahl's method was employed.

OFFICIAL ANNOUNCEMENTS

Official Minutes of the Tenth Annual Session oe the Eye, Ear, Nose and Thrqat Section of the Kentucky State Medical Association

Held at the Brown Hotel, Louisville, Kentucky, June 4th-5th, 1930.

Evening Session, Wednesday, June 4, 1930

The Annual Dinner was served in the Crystal Ball Room of the Brown Hotel, at 7:00 P. M., about sixty-six members and guests being present. Dr. John F. Barnhill, of Indianapolis, Indiana, was the guest of honor.

At conclusion of the banquet, about 8:30 P. M., the section was called to order by the president, Dr. Gaylord C. Hall, Louisville, who presented his annual address, entitled: "Acute Retropharyngeal Abscess in Infants and Young Children."

The president then introduced the guest of honor and principal speaker of the evening, Dr. John F. Barnhill, of Indianapolis, Ind., who delivered a splendid address on the subject of "Headaches."

Dr. Barnhill stated that the Indianapolis Eye, Ear, Nose and Throat Society had invited the American Academy of Ophthalmology to meet at Indianapolis in 1931, and asked co-operation of the section. It was then moved (Dr. C. T. Wolfe) and carried that, as the Louisville Eye, Ear, Nose and Throat Society had already passed a motion petitioning the Academy to meet at Indianapolis in 1931, the Eye, Ear, Nose and Throat Section of the Kentucky Medical Association also request the Academy to meet at Indianapolis in 1931.

The section adjourned about 10:30 P. M. to reconvene in the Roof Garden of the Brown Hotel Thursday morning, June 5th, at nine o'clock.

Morning Session, Thursday, June 5, 1930

The section was called to order by Dr. Gaylord C. Hall, president, at 9:30 A. M. Registration about forty members.

The official minutes of the 1929 session were read and approved.

Reports of Dr. S. B. Marks, treasurer and Dr. Walter Dean, secretary, were presented and upon motion,accepted.

After some discussion, it was moved by Dr. J. D. Williams, Ashland, and carried that all members in arrears for dues more than two years shall be notified by the treasurer that unless they pay their dues within one month after date of this meeting, they will be automaticallly dropped.

The following were admitted to active membership by unanimous vote:

Dr. D. L. Salmon, Madisonville,
Dr. E. Pace, Paducah,
Dr. M. M. Ridell, Harlan,
Dr. C. H. Krieger, Louisville,
Dr. C. I. Moran, Louisville.

The president announced that the election of officers for the year 1931 would be postponed until the afternoon session.

It was moved and carried that Dr. John F. Barnhill, Indianapolis, be made an honorary member of the section.

Scientific Program

The first paper on the program, entitled: "The Upper Respiratory Tract as a Guide to Nutritional Disaster—A Discussion of the Jarvis Syndrome," was read by Dr. J. A. Stucky, Lexington. Discussed by Drs. Cowley, Heitger, Barnhill, Dabney, Watkins, Griffith, Baker, and in closing by the essayist.

The second paper on "The History and Diagnosis of Trachoma," was presented by Dr. Claude T. Wolfe, Louisville. Discussed by Drs. Stucky, Heitger, Williams and Wells.

The third paper, subject: "Deformities of the Nasal Septum and their Correction," was presented by Dr. D. L. Salmon, Madisonville. Discussed by Drs. Wolfe, Bass, Hester, Cowley, Beck, Barnhill, Griffith, Dean, Wells, Williams, and in closing by the essayist.

The fourth paper, entitled: "A Questionnaire on Some of the Problems Concerning Tonsillectomy," was read by Dr. Harry D. Abell, Paducah. Discussed by Drs. Watkins, Wolfe, Bass, Dulaney, Griffith, Barnhill, Beck, and in closing by the essyist.

At this juncture it was moved by Dr. J. D. Heitger and carried that the members of this section go on record as condemning the process of electrocoagulation in tonsil work.

The section adjourned at 1:00 P. M. for lunch.

Afternoon Session, Thursday, June 5, 1930

Section called to order by Dr. Gaylord C. Hall, president, at 2:00 P. M.

The first item considered by the section was the selection of a meeting place for 1931. After some discussion it was moved by Dr. W. P. Drake, Bowling Green and carried that the section meet next year in Bowling Green, the time to be decided by the committee.

The president announced there had been one death among members of the section, Dr. Bailey, Madisonville. It was then moved and carried that a committee be appointed to draft suitable resolutions on the death of Dr. Bailey, copy to be sent the family and also the Journal.

The following officers were unanimously elected for 1931:

President, Dr. W. P. Drake, Bowling Green,

Vice President, Dr. W. N. Offutt, Lexington.

Treasurer, Dr. S. B. Marks, Lexington.

Secretary, Dr. H. D. Abell, Paducah.

SCIENTIFIC PROGRAM

The fifth paper, subjcet: "Tuberculosis of the Larynx—"Treatment with the Actual Cautery," was read by Dr. W. R. Pryor, Louisville. Discussed by Drs. O. O. Miller, Dabney, Wells, and in closing by the essayist.

As the sixth paper, Dr. E. Freeman, University of Louisville, delivered an address entitled: "The Physiological Correlates of Viscual Acuity," with blackboard drawings.

The seventh paper on the "Diagnosis and Treatment of Brain Abscess," was presented by Dr. R. Glen Spurling, Louisville. Discussed by Drs. Watkins, Bass, Pryor, and in closing by the essayist.

The eighth and last paper on the program, entitled: "Causes of Bleeding from the Throat," was read by Dr. G. B. Brown, Jr., of Lexington. Discussed by Drs. Bass, Dabney, Dean, Beck, Watkins, and in closing by the essayist.

There being no further business to come before the section, the meeting adjourned to reconvene at Bowling Green in 1931.

WALTER DEAN, Secretary.

Infection by Anaeroble Streptococci in Puerperal Fever—Anaerobic streptococci have been isolated by Colebrook from the blood of 17 puerperal fever patients and from the pleural effusion of 1 other patient whose blood was sterile at the time of culture. In 8 of the 17 cases the blood culture gave a mixed growth—of two types of anaerobic streptococci or of anaerobic streptococci with other species. The incidence of these 17 cases has not been such as to suggest a contagious origin of the infection. Ten of them had required intra-uterine manipulations during labor. Seven of the patients died (mortality 39 per cent). Septic thrombophlebitis was found post mortem in 4 cases and infarction in 2 others. Suppuration occurred during life, or was found post mortem, in 9 cases, anaerobic streptococci being always recovered from the pus. Thirteen of the 17 cases of generalized infection by anaerobic streptococci have occured at Queen Charlotte's Hospital. During the same period there have been only 6 cases of speticemia (possibly 7) due to hemolytic streptococci at this hospital (3 fatal). The nineteen strains of anaerobic streptococci isolated from the blood of patients appear to form a heterogeneous group. Some of them conform to the Streptococcus putridus type described by Schottmuller, while others do not. The technic of blood culture which has proved suitable for the isolation of the anaerobic streptococci is described. The view is expressed that puerperal infection by anaerobic streptococci probably occurs more frequently in this country than has been recognized and that failure to detect the generalized infections has resulted from the use of unsuitable blood culture methods.

ORIGINAL ARTICLES

ACUTE RETROPHARYNGEAL ABSCESS IN INFANTS AND YOUNG CHILDREN*

GAYLORD C. HALL, M. D.,
Louisville.

In the choice of a subject to present to you I was governed by the following considerations:

First, the statement by several pediatrician friends that some of the nose and throat men were not "up" on the diagnosis and treatment of this condition.

Second, the meagre and unsatisfactory description of the disease and its treatment in the average text book.

Third, the oft repeated statement by writers on this subject that the disease is often undiagnosed and discovered accidently post mortem.

On this point we have abundant testimony. St. Clair Thomson in his text book says: "It is a comparatively rare affection clinically, although some observers regard it as much more common than is generally believed, being often overlooked during life and not uncommonly found unexpectedly post mortem."

Again, Greenwald and Messeloff (quoted in Progressive Medicine, 1930) report a series of 55 cases which were all undiagnosed when first seen by them and had been treated from one to three weeks with no suspicion of the correct diagnosis.

The opening paragraph of Dr. Ira Frank's article read before the Section of Otology and Laryngology, A. M. A., in 1921, also stresses this point.

In a partial review of the literature of the last ten years I found the following: Progressive Medicine reviews three articles on this subject.

Before the A. M. A., Section of Otology and Laryngology, Dr. Ira Frank, in 1921, contributes the only article on this subject in ten years. He presented the subject very fully including a historical review.

The Transactions of the American Academy of Ophthalmology and Oto-Laryngology contains no article solely on this subject during the last ten years.

In 1922 Dr. Otto Glogau, of New York, discussed a method of external operation for the relief of retropharyngeal and other deep collections of pus in the neck, and described a method of blocking by packing the anterior and posterior mediastinum in such cases.

In 1929 Dr. Yankauer read a paper before the Academy entitled, Naso-pharyngeal Abscess, or Thornwald's Disease, in which he reports his observations on 155 cases. This is not the disease we have under discussion.

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*President's address delivered before the Eye, Ear and Throat Section, Kentucky State Medical Association, Louisville, June 4-5, 1930.

DEFINITION

Retropharyngeal abscess consists of a collection of pus between the posterior pharyngeal wall and the cervical vertebrae. It occurs in two forms, the acute primary and the secondary, chronic type, usually due to necrosis of the cervical vertebrae. It is the first type alone that we have under discussion.

PATHOLOGY

The disease is a suppurative lymphadenitis of the retropharyngeal glands of Henle, situated on each side between the aponeurosis of the second and third cervical vertebrae and the posterior pharyngeal wall.

These glands drain the post nasal space, Eustachian tubes, middle ear, and parts of the nose and upper pharynx.

Most cases are believed to be due to infection of the adenoid tissue in the naso-pharynx.

The abscess forms high and gravitates slowly downward, pushing forward the pharyngeal wall and impinging on the opening of the larynx. In its ultimate course it may involve the mediastinum; dissect through the fascial planes of the neck and present externally, anterior or posterior to the sternomastoid muscle. It may rupture into the larynx or even through the external auditory meatus.

INCIDENCE

That over 90 per cent of these cases occur in children in the first three years of life is due to the early atrophy of these glands and the fact that being an infection involving the lymphatic structures the infection would occur where these tissues were most active.

In the twelve cases that have come under my observation the ages were as follows: 1, two months; 1, four months; 2, five months; 1, six months; 2, twelve months; 1, thirteen months; 1 sixteen months; 1, seventeen months; 1, three years; 1, three and a half years.

SYMPTOMATOLOGY

In the cases I have seen where a history could be obtained an acute upper respiratory infection initiated the attack. The child at first is merely restless and fretful with irregular fever, sometimes reaching 104° F. There is usually a unilateral lymphadenitis under one ear, which causes fixation of the head and often earache, but examination of the drum shows it to be normal. As the disease progresses pain on swallowing becomes more pronounced. The child either refuses food and fluids altogether or takes the breast or bottle only to expel the milk with a cry of pain. The cry in these cases is often described as characteristic, being likened to the cry of a duck and is different from the hoarseness of laryngitis.

Due to the pain of swallowing the mouth is full of thick, tenacious mucus, which is difficult to remove. There is mouth breathing, due to the obstruction of the nasopharynx. Progressingly increasing dyspnea occurs as soon as the pus begins to gravitate downward towards the larynx. The dyspnea is worse at night, sleep is accompanied by loud stertorous breathing, or actually interrupted by the child's efforts to breathe. These children do not like to lie on their backs but prefer to sit up, leaning forward.

The skin of these little patients is usually moist and perspiring, but pale and lead colored. The pulse is rapid and of poor volume. The features are often pinched and show an anxious expression, and in the latter stages give the appearance of being gravely ill.

One should now examine the throat. This should be done carefully, without undue efforts to prop the mouth widely open, or to force the tongue down too far, as you may bring on an acute respiratory arrest, or even death, as reported by Chamberlain in discussing Dr. Frank's paper before mentioned.

I have found the safest method is to stand behind the patient, place a cork between the teeth, and insert the gloved finger in the mouth so as to palpate the posterior pharyngeal wall. In abscess you feel, usually to one side a large "boggy" swelling. It is not hard and nodular, and it does not pulsate.

If possible to get a look at the posterior wall you may sometimes see this bulging forward, but the finger is more reliable. After this examination the patient is held forward to drain the mouth of the thick tenacious mucus collected there.

The diagnosis rests on the history of an acute respiratory infection with irregular fever, tending to assume a septic curve as the case advances; the presence of enlarged glands under the ear; the fixation of the head; increasing pain on swallowing, shown by refusal of the breast or bottle, and accompanied by a hoarse cry; dribbling of mucus from the mouth; progressive increasing difficulty in breathing and a tendency to respiratory arrest when the mouth is forced open or the tongue forced downward and not forward.

Finally, the presence, located by careful palpation, of a fluctuating, "boggy," swelling, to one side, usually, on the posterior pharyngeal wall.

DIFFERENTIAL DIAGNOSIS

The disease has to be differentiated from laryngitis, diphtheria, bronchitis, foreign body, tumor and aneurysm. From the first three, you have the fixation of the head, unilateral adenitis, dysphagia, the different quality of the voice; the fact that pressure backward on the larynx markedly increases the dyspnea in retropharyngeal abscess and has no effect in bronchitis, diphtheria, or laryngitis. There is no fluctuating swelling of the postierior wall in the other three and there is in abscess.

In foreign body there is a difference in history; no enlarged glands unless the body has performed the esophagus and caused an abscess. An x-ray examination may disclose the presence of the body. There is no fluctuating mass on the posterior wall in foreign body.

Tumor is rare in childhood. It is not accompanied by fever; much slower in growth, and is firm and nodular to the touch.

Aneurysm is likewise rare; not accompanied by fever or enlarged glands. Pulsation may be felt in the swelling.

The cases seen late with marked dyspnea, dysphagia, prostration, and sepic symptoms can best be distinguished from broncho-pneumonia by palpation of the posterior wall and the examination of the chest for physical signs of pneumonia.

Prognosis

This is grave. If not relieved nearly all of these children die. Before the abscess bursts death may take place from asphyxia, laryngeal edema, spasm of the glottis or cardiac failure from pressure on the vagus and sympathetic.

Even after the abscess has been successfully evacuated, death may take place from erosion of one of the large vessels of the neck. Such cases have been reported.

If the case is not seen too late, prompt opening of the abscess gives a fair prospect of recovery. As these patients are much debilitated, supportive treatment should be instituted to build up their resistance.

Treatment

Prompt opening of the abscess is imperative as soon as the diagnosis is established. This may be done through the mouth or externally. If we elect to open the abscess through the mouth, the child should be wrapped securely in a sheet and held by a person who understands thoroughly what is expected of him. If the patient is held upright a cork is used to separate the teeth and the gloved finger is inserted in the mouth feeling the swelling on the posterior wall and the knife inserted along the side of the finger, cutting into the swelling from below upward, and the child immediately held forward, face downward, to let the pus escape from the mouth and nose, thus preventing it getting into the larynx. The opening can be enlarged with forceps and the finger used to see that the space is empty.

Practically the same method is used when the child is held on its side, with the head slightly lower than the rest of the body.

These two methods are the usual ones employed in evacuating these collections of pus.

No anesthetic, local or general, is used, and it is better to have instruments ready for an immediate tracheotomy should this become necessary. If these are not available, a set of Mosher's life saving tubes should be on hand.

Occasionally the external operation may be indicated, where the pus has descended very low or where invasion of the mediastinum is imminent. Dr. Otto Glogau, of New York, described such an operation before the American Academy in 1922. He makes an incision along the anterior border of the sternomastoid muscle, pushes the deep vessels to one side and packs the anterior and posterior mediastinum with gauze, then with blunt forceps he locates and opens the collection of pus.

While I do not believe that the external operation is suitable for use as a routine in these cases, it is well to remember this method of approach in lesions low down that threaten the mediastinum.

In conclusion. I would stress the following points. Bear in mind the possibility of encountering these cases at any time.

Examine the posterior pharyngeal wall with the gloved finger to locate a "boggy" swelling.

If present, promptly evacuate the abscess with precautions against allowing any of the pus entering the air passages.

Action of Viosterol on the Repair of Fractures—Roi states that thus far few researches on this subject have been reported and that the conclusions of the investigators do not agree. Bors thought that viosterol accelated the reparation of fractures. Hellner, who carried out researches on rats and guinea-pigs, found no difference between the animals treated with viosterol and the controls, on the basis of roentgen histologic and chemical examinations. Lopez reached the same conclusions as Hellner. Roi's researches were carried out on guinea-pigs. They were subjected to the administration of a 1 per cent oily solution of viosterol, given on alternate days by the perenteral route in doses of 0.5 cc. (equal to 5 mg. of ergosterol)). His observations of results agree with those of Bors and are opposed to those of Lopez, Hellner and Chiariello. He found the process of consolidation of the callus to be more rapid than in the controls.

THE UPPER RESPIRATORY TRACT AS A GUIDE TO NUTRITIONAL DISASTERS. DISCUSSION OF THE JARVIS SYNDROME*

J. A. Stucky, M. D.

Lexington.

While Dr. D. C. Jarvis, of Barre, Vermont, was attending the Trudeau School of Tuberculosis, he came in close contact with the Statistician of New York, who was later Vital Statistician for the League of Nations.

Jarvis having local charge of the work in Vermont of the Committee on Mortality from Tuberculosis in the dusty trades, had completed examinations of the upper respiratory tract of 500 men inquiring into their food selections. He had also examined the respiratory tract of 60 babies, the offspring of these men, believing that a relationship existed between the food selection of the individual and the appearance of the upper respiratory tract.

After several conferences the statistician made four requests of Jarvis.

I. Examine the upper respiratory tract and inquire into the food selection of individuals representing the different decades of life. Then correlate the observations made on the various groups.

II. Study in like manner groups living in city environment and those living in the country and in public institutions, and correlate the observations.

III. If food selections influenced the appearance of the upper respiratory tract, then it had a bearing on the well-being of the individual. He was to endeavor to discover if a syndrome existed and if any relation existed between the syndrome, the food selection and the appearance of the upper respiratory tract.

IV. If his observations were correctly and accurately made, then he should be able to tell after examination of the upper respiratory tract, the food selection of the individual and the state of his well being, likewise a change of food selection should bring about a change in the appearance of the upper respiratory tract as well as a change in the patient's well being.

He then asked Jarvis to wait from two to four years after the observations were finished that time might test the conclusions. It has required fourteen years to carry this out.

In complying with the first request, in addition to his office and hospital patients, Jarvis assumed the care of students in a private school for three years. These ranged in age from fourteen to eighteen and were prepared in this school for college.

For the older group he took care of a teachers' college for a two-year period. For the more rugged type he assumed medical care of a football team for five years, traveling with them for out of town games, in order to have close contact with them. The above groups gave the different ten-year periods.

Observations. In the group from ten to twenty years of age, lymphoid tissue seemed to be present in proportion as fats were absent from the diet. (muscled meats).

In the second group, from twenty to thirty years, there seemed to be a catarrhal discharge varying in amounts apparently dependent on a lack of proper amount of leafy vegetables.

In the third group, from thirty to forty years and upward, there appeared a granular condition of the posterior pharyngeal wall dependent on an excess of cereals and foods made from flour.

In correlating these groups little was found to hold fast to. The absence of fats associated with the increase of lymphoid tissue in the ten to twenty year group, did not exist in the groups beyond thirty.

The catarrhal discharge from lack of leafy vegetables in the twenty to thirty year group did not exist in other groups.

The granular condition of the posterior pharyngeal wall which seemed in the thirty to forty year group dependent on an excess of cereals and foods made from flour, did not hold in the other groups.

The only fact remaining after doing the problem in multiple correlation was:

"No matter how much the upper respiratory tract varied in appearance in the majority of individuals without other evidence of clinical disease there was a marked increase of redness of the mucous membrane covering the cartilaginous septum and to a lesser degree that covering the anterior pillars and aryepiglottic folds when the food was of a certain type.

On this bit of evidence he did the work all over, using the upper respiratory tract to study food classification, as to alkaline and acid producing foods.

Continued observations disclosed the fact that in all groups, when acid producing foods represented the greater part of the daily food intake, there was an increase in redness of the mucous membranes covering the cartilaginous septum and often to a lesser degree the membranes covering the anterior pillars and aryepiglottic folds. In like manner when the greater daily food intake was alkaline producing food, there was absence of the condition mentioned above.

For record the degree of redness has been expressed as 1, 2 and 3, using the plus or minus sign before each number, plus 3 indieating fiery redness, and minus 3 indicating corresponding pallor. A, B and C have been used to designate the locations, A referring to the membrane covering the nasal septum, B the membrane covering the anterior pillars, and C the membrane covering the aryepiglottic folds.

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*Read before the Eye, Ear, Nose and Throat Section, Kentucky State Medical Association, Louisville, June 4-5, 1930.

In studying the groups living in the city and country environment, the same conclusions mentioned in the first request held good. City dwellers showed the best upper respiratory tract. This was found to be true because fruits and vegetables raised on the farm represented an income and were sold to the city dwellers. Milk was also sold, the farmers often being found using condensed milk.

The third request, as to food selection influencing the appearance of the upper respiratory tract, hence the well being of the individual, and the existence of a syndrome, he found when the greater part of the food was acid producing there was an incraesed redness of the mucous membranes mentioned above, and the individuals were tired all the time. They were irritable and hard to live with, and while eating regularly there was no real desire for food, also they were subject to indefinite symptoms in various parts of the body which were of short duration; when they should be awake, as in the middle of the day, they were drowsy, and when they should be sleepy they were wide awake, the night's rest bringing only a moderate amount of refreshment. Their skin and hair were dry and they were subject to constipation, generally feeling as if a long vacation was needed to set them right again.

Patients from the rural sections remarked that when a horse felt this way he was turned out on pasture that he might return to his original diet, the vegetation of the fields.

Apparently then the above syndrome in man would indicate a return to his basic diet, consisting to a large degree of foods ripened in the sun.

Fourth request. If then the appearance of the mucous membrane is a guide to a nutritional disaster, a change of food selection ought to bring about a change in the appearance of the membranes, and cause the syndrome to disappear. This it does. The time required for this is usually from three to six months, most generally six. Experience has proven it is best to ask patients to report at the office once a week for a month, then once a month for six months, in order to instruct them as to any changes and observe if the measures instituted are sufficient to produce the desired change and influence the nutritional disaster syndrome.

Jarvis' Treatment. If the patient's record is recorded as plus 3, then alkaline treatment, citrous fruit juices and alkaline producing foods all three are used. If plus 2 then citrous fruits and alkaline producing foods are usually sufficient. If plus 1 the alkaline producing food only is needed.

With patients living at a distance, alkaline treatment consisting of one teaspoonful of sodium bicarbonate in a glass of warm water is given at 10 A. M., 3 P. M. and 8 P. M. for three days, then juice of lemon is substituted for the bicarbonate for three days, then the bicarbonate for one day and the lemonade for three days, this being kept up for one month. In addition a list of alkaline producing foods is given, with instructions to eat most of the alkaline producing ones, rather than the acid producing.

With this paper he gives four case reports as follows:

Case I. A dentist living in a college town came saying his life was a series of physical depressions, he being able to practice about three months out of every four. He had tried various medical paths, with no improvement. He wanted his upper respiratory tract examined to find a foci of infection. Nothing was found but a fiery redness of the septum and he was told he was in the midst of a nutritional disaster, the alkaline treatment being suggested. Fourteen months later he came back to say he had been free from all physical let downs for one year, and had worked in his office each day he wished to. On looking at his nose it was found the fiery redness had disappeared and he was living wholly on alkaline producing foods, eating in addition to his regular meals from four to six oranges per day.

Case II. A colleague doing hospital work came saying he had a constant pain in the small of his back making it impossible for him to ride in his car. He feared a focus of infection in the tonsils or sinuses. Only crimson redness of the nasal septum was found. A change in his food selection brought partial relief in two weeks and complete relief in one month. Eighteen months have passed without a return of the pain and his nutritional syndrome has disappeared.

Case III. A physician's wife came because of lack of nervous energy she had had to give up all social activities. Nothing was found but crimson redness of the mucous membranes and it was suggested her food selection be changed, using citrous fruits, and one teaspoonful of cod liver oil, once daily, and the alkaline treatment if daily observation of her case warranted the last addition. At the end of six months she was doing all her own work again, and a few months ago her husband came to say she was a well woman. He stated she had studied her food selection and found in order to keep free she must use 75% alkaline producing food and if she fell much below this her old condition would begin to manifest itself in two weeks or a month.

Case IV. The wife of a granite quarry owner came saying she had been taking iron injections and various forms of treatment, hoping to regain her energy and care for her home and family. No focus of infection was found but crimson redness of the septum. It was suggested that she confine her food for one month to the alkaline producing ones, follow the diet list given her, take the alkaline treatment and also one teaspoonful of cod liver oil once a day. Four months later she came to say that for the first time in years she had prepared the Thanksgiving dinner for her family, sat down with them at table and later on in the day visited relatives. Examination showed disappearance of the redness and she no longer had her nutritional disaster.

CONCLUSIONS

My clinical observations confirm what Jarvis has reported. Climate, environment and the occupation of the people with the kind and condition of their food and drink, both as to quantity and quality must be considered.

I. I have found that an excess of animal protein causes the redness of the membranes covering the cartilaginous septum, the pillars of the fauces and the aryepiglottic folds, producing malaise and asthenia, the patient complaining of being tired and physically depressed.

II. An excess of cane sugar products in candies and pastries produces the watery discharge, stuffy nose and unstable voice. The post festival conditions so often seen after the holidays.

III. Excess of starchy foods, (carbohydrates), produces a thick gelatinous mucus in the posterior nares, covering the pharyngeal vault, and if not relieved, this soon becomes muco-purulent. In this condition we have a granular posterior pharyngeal wall. The symptoms are local. These are the sinus cases, or without relief, they rapidly become such, the muco-pus acting as a culture media for the micro-organism growth.

IV. In some cases in which I meet with the condition I have described, apparently the intake of the protein, cane sugar and carbohydrate foods is not excessive, but, a nutritional disaster or deficiency is the primary and most potential etiological factor. Superrefined flours, cereals, bolted and sifted meals, excess of cane sugars and saccharated tid-bits; insufficient fresh green vegetables and sun ripened fruits, whole milk and dairy products with a great amount of animal protein, (fish, flesh and fowl), cause the intestinal toxemias which furnish the focal infection of so many of the eye, ear, nose and throat conditions that come to us.

The nutritional disaster causes the acidosis which precedes the toxemia. Hawks[1], says, "Acidosis is lowering of the alkali reserve of the body. When such a reduction occurs the capacity of the blood to transport acids is lowered. Carbonic acid is the one most abundantly produced in the body, hence the alkali depletion lowers the power of the blood to carry this acid." Dwyer[2, 3] has demonstrated these facts in the laboratory of Manhattan E. E. N. & T. Hospital and clinics as given in his articles.

I have written much about this topic in the past, 4-5-6-7-8 in the ffourteen years. Jarvis has been working out this syndrome and translating it into scientific language, as to the etiological factor in the production of ear, nose and throat diseases, he has in a measure disproved my early contention that these conditions were of a lithemic or intestinal-toxemia origin proving instead that the whole is primarily due to a food deficiency or nutritional disaster. This latter point I have been agitating for the past ten or fifteen years, however it has required the painstaking efforts and close observations such as Jarvis has made to obtain these results without resorting to any therapy, either medical or surgical, except what he has mentioned.

In my own practice I try to begin with a "clean slate" by first emptying and cleansing the alimentary canal, then using my alkaline treatment and balanced diet, with whatever mild local application is indicated. I have seen so many cases of ear, nose and throat diseases, including involvement of the nasal accessory sinuses, which have been entirely relieved by correcting the nutritional deficiency, the intestinal toxemia and restoring the alkali reserve, that I feel safe in saying seventy-five per cent of such cases can be entirely relieved by this method. The other twenty-five per cent may require some surgical treatment, plus the removal of the existing toxemia and a sufficient balanced diet of alkali producing ash-base foods to restore and maintain the alkali reserve of the body. The patient must be made comfortable and this I am able to do with the large majority of cases without resorting to local anesthetics, opiates or surgical procedure.

Many are rapidly concluding that the acute diseases of the ear, nose and throat are *end results* of a systemic condition and that satisfactory and permanent results with the preservation of comfort and function of the upper respiratory tract and auditory apparatus can be restored and maintained by a rational nutritional and hygienic regime.

REFERENCE

1. Phillip Hawks, M. D. "Practical Physiological Chemistry."
2. James G. Dwyer, M. D. "Intestinal Toxemias."
3. James G. Dwyer, M. D. "Focal Infection of the Eye from the Intestional Tract."
4. J. A. Stucky, M. D. "Lithemic Naso-Pharyngitis and other Manifestations of Systemic Disturbances."
5. J. A. Stucky, M. D. "Lithemic Nasopharyngitis due to Systemic Disturbance."
6. J. A. Stucky, M. D. "Systemic Treatment in Pathological Conditions of the Eye, Ear, Nose and Throat."
7. J. A. Stucky, M. D. "The Responsibilityy of the Ophthalmologist and Otolaryngolosit for the Conservation of Public Health."
8. J. A. Stucky, M. D. "Some Unsolved Problems of Ophthalmology and Otolaryngology."

REPORT ON THE USE OF CATARRHAL VACCINE

W. B. Atkinson,

Campbellsville.

The vaccine used was that perpared by the State Board of Health with the label, "For the prevention of Pneumonia and Influenza." and the students of Campbellsville Junior College who lived in the dormatories of the college were used in the test.

Charts were kept on 64 students from the date of injection of the vaccine to the middle of May. Five of these were excluded because they left school beforet he term was out. One was excluded because she claimed she had had the vaccine before coming to school and we had no way to check this. One was excluded because she had chronic rhinitis of several years standing. This left 57 boys and girls in the healthiest period of life on whom a check was kept on two items. First, number of days each was troubled with a cold of respiratory infection. Seconnd, number of days unable to attend school from the same causes.

The 57 charted were devided as follows: 27 received no doses of vaccine; 7 received 1 dose of vaccine; 3 received 2 doses of vaccine; 20 received 3 doses of vaccine.

The results were as follows: The 7 receiving 1 dose each were sick with colds, etc., 4 days and lost no time from school.

The 3 receiving 2 doses were sick 2 days and no loss of time. The 20 receiving 3 doses were sick 27 days with no loss of time. The 27 receiving no doses were sick 70 days with loss of 10 days time from school.

Those receiving vaccine were sick less than half as many days as those without, and lost no time from school.

The total incidence of respiratory infection was much lass than in former years and none of any severity developed.

THE HISTORY AND DIAGNOSIS OF TRACHOMA*

Claude T. Wolfe, M. D.

Louisville.

The increase in the number of cases of acute trachoma which we have observed at the Louisville City Hospital clinic during the past six months has prompted me to review the literature of this interesting subject. In my study of the literature, really, I have been amazed, as it seems inexhaustible.

The history of trachoma has always held a fascination for me. I have always been deeply interested in Napoleon's invasions and I cannot pass this opportunity of recalling to your minds his invasion into Egypt when so many of his soldiers were infected with trachoma, necessitating their returning home, which, of course, terminated their usefulness as fighting men and may possibly have been the means of transmitting this scourge into Europe. If the return of these infected soldiers was not the primary cause of the widespread of the number of cases of trachoma in Europe, their presence certainly was the means of augmenting a near pandemic.

Warner, Surgeon, U. S. Public Health, states that there is little doubt that the Spanish peninsula was heavily infected with trachoma in the eighth century during the Mohammedan invasion and conquest. The Moslem armies were composed of elements from Arabia, Asia Minor, Egypt, and North Africa, which sections are known to have been heavily infected with trachoma as far back as history records. For seven centuries the Spanish peninsula was controlled and governed by the Arabs and all commercial intercourse was carried on with North Africa and Arabia. Trachoma is known to be prevalent in Spain today and in parts of Mexico settled by people from that country. In 1540, a small Spanish army with 800 Indian allies entered what is now known as New Mexico, ultimately exploring the country now comprising Arizona and New Mexico. Naturally, they came in contact with different Indian tribes and history records the fact that through this means trachoma was transmitted to our Indians.

We are all familiar with the work that has been done to eradicate trachoma among the

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*Read before the Eye, Ear Nose and Throat Section, Kentucky State Medical Association, Louisville, June 4-5, 1930.

Indians by the Public Health Officials as well as Fox, Noguchi and many others and are aware of the problem that they confronted. Its historical data, its world wide prevalence makes of trachoma a very interesting study.

European trachoma appears to have been given more attention by writers, though the American type has not necessarily been neglected. The mountain fastnesses and larger cities in America are frequently referred to.

As this paper is being read before a body of ophthalmologists it is hardly necessary that I mention the fact that trachoma is a chronic pathological condition of the conjunctiva which we regard as a dangerous contagious disease. We shall omit the classical stages as outlined in the text books and consider trachoma as we see it in our clinics and daily practice.

Personally, as I have observed trachoma, it usually appears as a deep red, conjunctival suffusion in conjunction with the granular extrusions of a similar color. Free bleeding occurs if pressure is applied to these areas. This condition is so typical that several years of clinical observation quite readily assist us in differentiating the mild types of follicular irritation resulting from extraneous products such as might have come from chalk dust in the ordinary school room, poor hygienic surroundings, refractive errors, etc. The chronic types with pannus as a pathognomonic symptom are quite familiar as well as the end results in which we see the sequelae so characteristically manifested by entropion, trichiasis, a distorted cartilage and deep seated corneal irritations from corneal ulcers with the consequent diminution of vision. To consider these symptoms in detail and classify them as they usually appear in the respective stages of this disease it is our experience that the symptoms of acute trachoma are usually noted as a marked folliculosis involving the conjunctiva of the eye lids with a thickening, followed by a deep inflammation of the subconjunctival tissues. As the disease progresses, this hypertrophy and inflammatory evidence involves the tarsal cartilage. These elevations soon take on the appearance of the minature red raspberry, as described by Royer.

Usually until this stage, that is, of the formation of granulations, a sensation of itching is about the only symptom experienced by the patient. With the appearance of the rough granulations in the palpebral area trauma to the bulbar conjunctiva and the cornea is ever present. Some have claimed that this trauma is responsible for the corneal ulcerations and the pannus which comes ultimately in the disease. Others claim that these symptoms result from a direct extension of the trachomatous process to the cornea.

If the irritation of the lid membranes is not controlled and the destructive process is permitted to continue, scarring and contraction results. Deformity is observed and entropion as well as other symptoms soon appear.

The intense itching associated with the uncontrollable desire to rub the eyes increases the trauma, and the distressing symptoms are intensified.

Miscellaneous organisms associated with the causative agent of trachoma are believed to produce discharges seen in its various stages. These discharges aggravate the subjective symptoms and make the patient more uncomfortable.

However, I might say that in addition to the subjective symptoms enumerated the diagnosis is corroborated by the appearance of the conjunctiva of the lids and the cul-de-sacs. You are all familiar with the different types of chronic trachoma. Remembering that in the usual type, the everted lids present the somewhat smooth appearance with the congested thickened conjunctiva most often with bands of scar tissue, this variety is clearly diagnosed and we know scar tissue is not present in catarrhal conjunctivitis. Then the follicular type which is so common, which we regard as the hypertrophied adenoid layer of conjunctiva (trachoma bodies), which, according to Thomas, is truly characteristic. Naturally, we expect to find the everted lids roughly granular, in the early stage, with granules more in evidence in the cul-de-sac.

One objective symptom which I have repeatedly observed and which I have not seen mentioned in the literature, is the diagnostic importance of granules on the bulbar conjunctiva. This one symptom, when present, has influenced me in making a decision in favor of trachoma when the case was a border line one. Personally, I am not aware of any condition that could produce granules on the bulbar conjunctiva except trachoma. This statement will undoubtedly be questioned.

With this brief resume of the symptoms, let us consider the differential diagnoses and etiology of trachoma, the cause of which is a mystery and a stumbling block for investigators in this field.

Follicular conjunctivitis often resembles trachoma in the early stages and is sometimes difficult of differentiation. Should it end in complete recovery we may be assured that trachoma was not the cause. The chief characteristics of follicular conjunctivitis is the presence of small round follicles or granules, the size of a pin head, which are seen in the region of the transitional fold of the conjunctiva. They are pale in appearance and there is a tendency for them to "puff up" or elevate slightly the conjunctiva into small eminences. Occasionally we find only a few in number but there may be many. As the text books state, when they are numerous they are usually arranged in rows. According to Lear, when these follicles are examined by a microscope they consist of a circumscribed accumulation of adenoid tissue much like the trachoma granules. From our observations they are more frequently noted in youth and especially in school children. It so happens that the patient may not be aware of their presence until discovered in the course of a medical examination. It is not infrequent to note their presence over a long period of time.

These follicles never produce ptosis as is often seen in trachoma. There is never a marked hypertrophy of the conjunctiva which symptom is characteristic of trachoma, and further pannus is in no way akin to follicular conjunctivitis.

Trachoma, therefore, is a disease distinguished by its chronicity which extends over a period of years if without treatment and may render the patient half or wholly blind.

There are many reasons to make us believe that it is of microbic origin as we see different members of the same family affected, but the etiological agent is still a mystery. Chandler's belief in the protozoan nature of the parasite was given much thought. His belief was that the Prowazek's bodies, or tiny granules occurred in the affected portions of the eye, sometimes within the cells and at other times free in the serum. These so-called trachoma inclusions have since been demonstrated to be nonspecific. As Noguchi suggested, they are probably nests of growing bacteria of various kinds formed in all sorts of eye infections or inflammations. Nutritional errors have been considered as a cause of trachoma and our own Dr. Stucky as well as other observers have advanced this theory. If the fault is primarily dietetic I should like to know the remedy. If it is due to a deficiency in vitamin, cod liver oil has not solved the problem in my hands.

It was my pleasure to hear Noguchi read his paper before the ophthalmological section of the A. M. A at Washington in 1927, in which he claimed to have isolated a micro-organism from the trachomatous human conjunctiva, had produced a pure culture of this germ and with it had inoculated the conjunctiva of monkeys thereby producing a conjunctivitis similar to trachoma in the human conjunctiva. He claimed that the requirements of Koch's law had been fulfilled and the cycle was complete.

His work in New Mexico in 1926 and his discovery of the organism which he believed was the causative agent is graphically told by Francis Proctor. Proctor states that Noguchi only consented to take up this work after being convinced that true trachoma really existed among the Indians. After one year of work he isolated a micro-organism from the trachomatous conjunctiva, produced a pure culture of this micro-organism and with it inoculated the conjunctiva of monkeys, thereby producing a condition having all the appearance of trachoma in the human conjunctiva, and finally from these inoculated monkeys recovered the micro-organism in pure culture. His announcement met with a most enthusiastic reception.

Proctor further states that it is difficult for us to realize how far-reaching may be the results of Noguchi's discovery. According to statistics in the possession of the United States Health Service, it is safe to say that of the total population of the world, hundreds of thousands, if not millions, have trachoma. In Europe a trachoma league has been formed and most governments have recognized the importance of the disease and are endeavoring to control it.

Noguchi continued his experiments for at least another year and I am sure that he was convinced that he had isolated the causative agent. He called this micro-organism bacterium granulosis. Unfortunately, his death occurred soon afterward, and he was deprived of the pleasure of knowing that his researches were being continued by the Rockefeller Institute for medical research. This institute secured several strains of the same bacterium from advanced untreated cases of trachoma. They agreed in all respects with the bacterium granulosis. However, later experiments in this institute are far from conclusive and only indicate that they are deeply interested and are giving due consideration to the study of this disease.

Dr. Noguchi's observations have been confirmed in the United States and Europe and definitely associates etiologically bacterium granulosis with human trachoma. According to Joseph R. Tyler, this association is based first on the frequent, probably constant, presence of the bacterium in the lesions; and also on the fact that when bacterium granulosis is inoculated into monkeys and chimpanzees by sub-conjunctival injections corresponding granulomatous lesions are produced. Experienced ophthalmologists have identified the experimentally produced lesions with the typical lesions of human trachoma and there are great similarities between the two shown by the microscope.

In Noguchi's monographic article it is stated that the usual course of the development of the lesions in inoculated monkeys is first the appearance of the granular lesions on the upper inoculated conjunctiva; then on the lower membrane and later the extension of the lesions to the upper and lower conjunctiva of the opposite uninjected eye. From these observations emphasis was placed upon the fact that contact plays quite a part in the transmission of trachoma or at least certainly the secretions from the lesions are to be regarded as dangerous if transmissive.

In order to prove the possibilities of contact infection beyond doubt Noguchi caged four monkeys together. Two of the four had advanced granular lesions produced in the one case by the injection of bacterium granulosis. The remaining two monkeys had normal conjunctivae. The animals were placed together in a room cage and were examined eighteen days later. The originally infected monkeys showed advanced conjunctival lesions. The two exposed monkeys showed unmistakable evidence of granulomatous lesions affecting the upper and lower conjunctival surfaces of both eyes. Therefore, the most skeptical must conclude that bacterium granulosis can be carried to and made to infect the normal conjunctiva of monkeys through ordinary contact.

Drs. Finnoff and Thygeson of the University of Colorado School of Medicine, in their preliminary report on the study of six cases of trachoma, state that in four cases material was obtained and studied by culture on leptospira medium and that a minute gram negative bacillus was recovered whose cultural and morphological characteristics corresponded to those of bacterium granulosis. With the organism they inoculated the conjunctivae of rabbits, dogs and guinea pigs and failed to produce gross changes after six weeks. Sub-conjunctival injections into monkeys produced definite hyperemia of the inoculated lids in four cases and marked folliculosis with spreading to the other eye in one. These observers state that sufficient time has not elapsed for them to draw any conclusions regarding these animals, but will report further observations later.

In response to a telegram in which I asked him to give me data on his further observations since his preliminary report, Dr. Finnoff wrote that he had prepared a paper to be presented before the section on ophthalmology of the A. M. A. at Detroit in June. He advised me that he had succeeded in finding the bacterium granulosis in a number of cases of typical human trachoma in white persons. With several of these he had produced a disease in monkeys that is exactly the same as the trachoma that occurs in animals after the implantation of trachomatous tissue. He further states that his experiments in the monkey paralleled those of Noguchi and that he now believed that there is very strong evidence that the bacterium granulosis is one of the causative factors of trachoma. However, he states, that he will not be entirely convinced that it is the cause until the disease is produced in human beings. At the present he is seeking volunteers who will submit to inoculation.

Experimental contact infections while convincing and a stimulus to further and deeper study only represent a decided step in advance in the elucidation of problems of human trachoma. As yet, we are not sure that the causative agent has been isolated. However, it appears that a progressive step forward in the study of this distressing malady has been made.

In conclusion permit me to state that it was not my intention to present any new theories on the diagnosis of trachoma, but merely to give you a resume of the literature with the idea of stimulating a free discussion from which all should profit.

DISCUSSION

Joseph D. Heitger, Louisville: As a boy in the community where I was formerly located, I recall a family of five brothers and one sister. They all had some type of contagious eye disease, and the people in the community thought their work, that of cleaning outhouses, had something to do with their eye troubles. To make a long story short, of the six members in the family I saw two of them later when practicing medicine. All the rest of them had died in the poorhouse, because of their inability to work on account of blindness. These two individuals, one a woman, the other a man, were about twenty years old when I saw them. They had the well-known objective results of long-continued trachoma, and all I could do for them was to make them a little more comfortable with tarsectomy.

A short time ago one of my patients, who has made a wonderful hobby of adopting children, having adopted three herself and found homes for many others, brought a small, under-nourished boy to me, and asked my advise regarding his eyes and nose. Examination showed on the eyelids the scarred results, apparently, of an old trachoma. There was considerable lacrimation and he was photophobic. She thought the condition of the boy's eyes was the result of his under-nourishment. After two weeks of proper food, containing orange juice and fats with other vitamins, coupled with a little local treatment of the eyes and nose, the condition had so improved that the child could be considered practically well. This would hardly have been believed had I not seen it personally. He began to improve immediately after his first glass of orange juice and butter fats. The child simply needed fats and other vitamins. These probably had more to do with his recovery than anything else.

At the International Ophthalmology Congress last year in Amsterdam many of the papers and discussions dealt with the trachoma problem in Europe, which has become quite a menace. A statement was made in 1912 that 95 per cent of the school children in Egypt had trachoma. The next survey was made in 1928, when the incidence of trachoma had been reduced only to 92 per cent. In sixteen years, under the careful routine as conducted by the British government, the incidence of trachoma had been reduced about three per cent, namely: from 95 to 92 per cent, which will give you some idea of the difficulties encountered in trying to eliminate the trachoma problem.

J. D. Williams, Ashland: In connection with the matter of transmission of trachoma: I have been very much in doubt as to whether the disease is as contagious as generally believed. During the year (1911) I was working in Knapp's Eye Clinic, and was told that the chief, Herman Knapp, the most outstanding ophthalmologist in the U. S., shortly after a trachoma treatment and to show his contempt for the idea of transmission from one person to another rubbed his uncleansed fingers in his eyes. The disease was not thereby transmitted. I believe the question of nutrition has much to do with the disease. It seems to be particularly prevalent among persons living in a tuberculosis environment. We have all seen this.

Personally I have treated every case as trachoma where the individual presented a granular condition of the eyelids, unless the case was plainly one of folliculosis.

Edmond D. Wells, Louisville: There are many features about trachoma which are not definitely understood. During my service in a large orphanage, no child ever developed trachoma who had been in the institution more than two months. One child had trachoma when admitted, yet none of the others contracted the disease provided they had been there any length of time. One child in a family may have trachoma, and other children in the same family may show no evidence of the disease. My observation has been that, so far as the mountains of Kentucky are concerned, we do not know anything about trachoma. The disease may exist in one family for years and not be discovered, and no other cases may develop in that community. Another family may have it and everybody in that locality will develop the disease.

J. A. Stucky, Lexington: The fact that trachoma is one of the most destructive diseases of the eye and if not arrested or eradicated, causes partial or total impairment of vision, makes it a most interesting topic.

The medical profession is practically agreed as to the best way to eradicate it, but as yet are undecided as to its etiology, having found no vaccine or antitoxin to prevent it. The majority are agreed that it is infectious but a good minority are convinced that it is not. I hope the enthusiasm in the report of the essayist is well founded and that we are near to isolating the specific etiological factor in its production.

Long ago I ceased to quarantine trachoma patients except for a brief period unless for psychological reasons. Clinically, the disease as I have found it is a malignant one and fundamentally due to a nutritional disaster as much as is ricketts.

The points about which I have not changed my mind since the report of the National Committee of the A. M. A., 1922, formulating rules for making a diagnosis, are, in the initial stage if the conjunctiva can be stretched and the blood vessels plainly seen I do not consider it genuine trachoma. This is a distinguishing feature from the follicular conjunctivitis so often seen in school children who are improperly nourished. In this stage the conjunctiva is easily and evenly put on the stretch, the whole membrane being elastic and the blood vessels can be plainly seen. If however, the membrane is thickened, cannot be stretched but is plastic and adherent it is real trachoma. Pannus, thickening of the outer edge of the tarsus and trichiasis are pathognomonic of the disease, especially pannus.

The treatment is primarily surgical, though I do not advocate stripping the cartilage of all its conjunctiva. The trachomatous bodies are carefully removed by grattage, and the area touched with a ten or twenty-five per cent solution of trichloracetic acid, followed by five per cent solution of mercurochrome. Eyes are kept clean and the vast majority of patients are given cod liver oil three times a day and put on a carefully balanced diet. I have found nothing spectacular in the eradication of this disease, the immediate result of surgery being relief of all symptoms for a few deys. In the class of people whom I have treated, unless they are properly fed and their living conditions regulated there are frequent recurrences, too often with cicatricial changes in the cartilage and other tissues which result in deformity of the lids.

I have been surprised at the regeneration of both conjunctiva and cartilage, when the patient's diet is regulated, supplied with vitamins A and B, (in concentrated form as found in cod liver oil) and their hypocalcemia overcome. Best results are not obtained by too radical surgery. It frequently leaves a dry lid which is an almost constant source of irritation to the cornea.

I am still of the opinion that trachoma begins as an adenomatous conjunctival irritation, due to improper feeding and impaired metabolism.

NASAL SEPTAL DEFORMITIES AND THEIR CORRECTION*

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Madisonville.

One of the most constant problems to be dealt with by those doing ear, nose, and throat work, is that of nasal septal deformities and the indication for their correction. It is far more common among civilized people to find some deformity of the septum than to see one which is absolutely in the middle line; however, in only a very limited number of these instances is a surgical precedure necessary. It is not my intention to discuss the numerous types of operations used today, but merely to mention some of the points which have been troublesome to me.

The predisposing and exciting causes may be considered as follows:

(1) People suffering from strumous, syphilitic, tuberculous, or rachitic diatheses.

(2) Racial characteristics: Most authorities are agreed that septal deformities are vastly more frequent among civilized than among primitive or savage races. This increased frequency is ascribed to two causes: namely, the increase in the cranial development with enlargement of the facial angle, and admixture of different races.

(3) Age: Deformities of the septum are rare and seldom very marked in children before the second dentition.

(4) Intra-nasal exciting causes: At an early period of development the vomer consists of two separate laminae enclosing between them a plate of cartilage which is prolonged forward to form the cartilaginous part of the septum. Ossification starts in these two laminae about the sixth or eighth week of fetal life, but is not complete until after puberty. About the third year the two laminae begin to coalesce from behind forward, thus any hypernutrition of one or lack of development of the other will produce a distortion of the vomer, which will naturally be accentuated in the cartilage. The fact that ossification begins in the posterior end of the septum and that coalescence takes place from behind forward would explain why deviations of the posterior end of the septum are rare. Maldevelopment from any cause may lead to a vertical or horizonal over-growth. In this way spurs and ridges occur. These are found chiefly along the vomer and superior maxilla, anterior portion of the vomer and its junction with the quadrilateral cartilage and junction of anterior border of ethmoid and cartilages. Not infrequently a narrow high arched palate is found with a corresponding abnormality of the septum. This is often a stigmata left by adenoids and mouth breathing or possibly the hard rubber nipple in bottle-fed babies, exerting pressure against the roof of the mouth. Under such conditions, the thin and pliable septum cannot develop normally in the restricted and unyielding chamber in which it is confined. Traumatism is the most common external exciting cause of a septal deformity.

Septal deformities may be classified into spurs, deviations, and combination of these two. They may be either of the bony or cartilaginous portion or both.

The position and degree of deformity are determining factors in symptoms produced. The sharp angular deflection of the triangular cartilage in its anterior part, either with or without an involvement of the columellar cartilage, usually produces the most obstruction to breathing. The mucous membrane on the convex side of the deflection, being more exposed to air and dust, is often thin and atrophic, bleeds easily, and is the site of a low grade type of ulcer. The collection of secretion behind the deflection falls into posterior nares, producing a postnasal "dripping." There is often a distinct compensatory hypertrophy of the middle or inferior turbinate on the concave side of the deformity which will produce as much obstruction to breathing as the septal deflection. It has never been our practice to disturb these abnormal turbinates, but straighten the septum, give them time and we are often surprised to see how nearly normal they become. If after a reasonable length of time the hypertrophy is still producing some symptoms, the actual or chemical cautery will help. Too many times have the middle and inferior turbinates been sacrificed needlessly. The submucous resection is by far the more conservative operation. When this is done properly, that is the defection removed, it is one of the most satisfactory operations the ear, nose, and throat man has to do. The beneficial results of the submucous resection are often missed because the operator does not remove the deflection, particularly along the vomero-maxillary ridge or high in the region of the middle meatus. Patients complaining of frequent head colds with or without nasal discharge often show a hyperplastic condition of the ethmoids, sphenoids, or an empyema of the antrum with a marked irregularity of the septum, enough to cause improper drainage and poor aeration of the nose. I have seen many of these cases operated and an attempt made to exenterate the ethmoids, sphenoids, or a naso-antral opening made at the same sitting, while no attempt was made to correct the septum, which might possibly have been either the etiological or contributing factor to the entire condition. In these cases we will practice conservatism and often obtain more satisfactory results by correcting the septal deformity, remove a few ethmoid cells, irrigate the antrum if necessary, and give nature a chance to help us.

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*Read before the Eye, Ear, Nose and Throat Section, Kentucky State Medical Association, Louisville, June 4-5, 1930.

There has been much written on septal spurs and deformities coming in contact with the mucous membrane on the opposite side of the nose, causing headaches, neuralgia, and various types of indefinite pains of the face. I have not seen enough of these conditions to recognize their real significance.

We have not been enthusiastic in advising a submucous resection or a turbinectomy for the cure of catarrhal types of deafness. This point is stressed by some of the well-known ear, nose and throat men. Only in conditions where there is a frequency of head colds, which may in part be caused by a septal deformity, or benefited by a submusous resection have we advised any nasal surgery.

The type of operation, point or side of incision, instruments used, etc., are optional points with the operator as long as the desired results are obtained. I have always made my original incision in the left side of the nose regardless of which side the deflection is on. There is possibly some difference in the post-operative care. We have tried the various types of splints and packing and found the narrow canton flannel strips covered with powdered bismuth formic iodine inserted into both sides of the nose for twenty-four to forty-eight hours following operation, the most satisfactory way of after treatment.

The question of submucous resection in children is often a hard problem to settle. Rarely ever should a septum be operated upon before sixteen years of age; however, we are at times tempted to do a low submucous resection if the symptoms are severe enough. I have had two such cases under observation for four years.

One in a boy seven years old, with a sharp angular deflection far forward and almost completely obstructing the nasal passage. He is very susceptible to upper respiratory infections and is a definite mouth breather. A tonsillectomy and adenoidectomy have not given much relief. Fortunately he has been able to change climates during the winter, but only gets temporary recession of symptoms. Two months ago following a head cold he developed a definite empyema of the antrum on the side of the obstruction. This condition subsided after a period of washings.

The other case is a boy aged six with an S-shaped deflection of the septum. The child is a definite mouth breather and is developing the typical facial characteristics or adenoid facies. A thorough removal of the adenoids and tonsils gave only slight relief.

In such conditions mentioned above we are often tempted to try some operative procedure. However, I think this should only be done when the growth and development of the child is impaired.

The principle of deferring operations if possible until after the age of sixteen is confirmed by investigations of Charles H. Hoyton into the results of Logan Turner's Clinic in Edinburg where in ten out of thirty-one patients operated upon between the age of six and fourteen there was broadening of the nose, or sinking in of the bridge above the junction of the nasal bones with the quadrilateral cartilage. These deformities occured, although in no case was there a perforation or a post-operative infection of any consequence.

Perforations of the septum are not uncommon. They are usually post-operative or associated with some general infection, as typhoid lues. When found in the bony portion of the septum they are usually specific in origin.

DISCUSSION

Claude T. Wolfe, Louisville: It has always been my idea that the nasal septum should never be operated upon until the individual reached a certain age, and like Dr. Salmon I have considered the minimum age to be sixteen years, unless there existed some valid reason for earlier operation. I have always hesitated about operating for septal deflections in earlier childhood, although I am aware that others have done so with satisfactory results. There may be definite indications for early operation, where the only contraindication would be the age of the patient. It is a moot question, we sometimes do not know just what had best be done. We remove tonsils and adenoids hoping for relief until the child reaches the age when the septum can be operated upon with a greater degree of safety.

A. L. Bass, Louisville: Submucous resection of the nasal septum, as we all know, is a major operation on the nose. If we acquire the ability and technique to perform a satisfactory submucous resection, we feel like we are competent to undertake any kind of nasal surgery. Strange as it may seem, I have never seen a Negro with a deflected nasal septum, and individuals of this race always have ample breathing space.

In septal spurs of large size submucous resection will be the best method of treatment. In the last few days I have had two patients with septal spurs where I thought I was warranted in not performing a submucous resection. In these cases if the septum is relatively straight, we do well to let the septum alone, the spur being removed with chisel or saw. If we can obtain satisfactory results and leave the septum I think it is well in these cases to do just as little operating as possible.

In submucous resection I make the incision on the side on which the deflection is located. I think that is the better plan. If there is considerable deviation anteriorly on the right side, I do not see how the operation could be satisfactorily performed by making an incision on the left side. It is much less difficult to make a right-sided incision.

For packing material I have used nearly everything from vaseline gauze, Bernay splints, and finger-cots packed with cotton. I have had splendid results from the use of a finger-cot packed with cotton. This is placed in the side where the incision was made, and in the other side I place a rubber tube 1-8th inch in diameter in the finger-cot, pack cotton above, make hole in end of cot for tube to protrude which permits the patient to breathe through his nose. This makes it very much more comfortable for the patient.

J. H. Hester, Louisville: The subject of deviations of the nasal septum in children is always an interesting one for discussion. How we best handle these cases has to me been a very perplexing question. When I examine a child with nasal obstruction, before doing anything else I try to ascertain whether there is a badly deflected nasal septum or not. If there is, I then remove the tonsils and adenoids hoping some measure of relief may be thereby obtained. The nasal passages are cleansed as thoroughly as possible then I dilate the nares on the obstructed side in that way giving the patient some ventilation on that side if obstruction has been complete. If obstruction has not been complete, I let the nose alone. In that way I have secured fairly satisfactory results. However, I always tell the patients that later we will probably have to perform submucous resection. Those cases in which hematoma develop are the ones that have given me the greatest amount of trouble and anxiety.

I was glad to hear Dr. Bass speak of using a soft rubber tube to permit nose breathing after operation. I have been wondering whether it would be of benefit to use a hard rubber drainage tube. I have never tried it but may do so later. Mouth breathing following nasal operations makes the patient very uncomfortable.

One plan I have followed to prevent hematoma has apparently been beneficial. A one inch incision is made on the floor of the nose. I then make a perforation near the floor as far posteriorly as I have elevated the mucous membrane. In that way fairly good drainage is secured, and where this method has been employed few hematomata have developed. I only recall one, and that was probably due to the fact that the splint was removed too early. I do not believe it is advisable to remove the splint under twenty-four hours. In this case the patient complained of considerable discomfort, and the splint was removed earlier with the result that hematoma developed. It cleared up in about two weeks.

R. H. Cowley, Berea: The technique I employ in operating for deflections of the nasal septum is very simple. I first make an incision from above downward anteriorly then extend it along the floor of the nose.

In completing the operation I make a counter-incision high on the opposite side where it will be securely covered by the flap. This allows for the escape of any blood preventing hematoma. I have found vaseline gauze the best packing.

Chas. K. Beck, Louisville: I think there is some danger of the development of hematoma following submucous resection for septal deviation regardless of whether a special incision is made or not. If the incision is made along the floor on the side on which the operation is done an hematoma could hardly develop. If the patient concludes to blow his nose, as some of them do after the packing is removed, air may enter through a posterior incision made for drainage forcing the two layers of mucous membrane apart. I had one such experience two or three years ago. I performed submucous resection on a physician who had a badly deflected nasal septum. He was a mouth breather and snored constantly during sleep. Packing was left in the nose twenty-four hours and removed. Shortly afterward he decided that he must blow his nose whether or no, notwithstanding my emphasized caution that he should not. Most of you probably know how strong the inclination is to clear the nasal chambers at sucn times, and this he proceeded to do. I had made a short incision along the floor of the nose far back to prevent hematoma. He returned in a day or two with the septum bulging with air, filling both nostris. There was no hematoma. I had never encountered anything just like it, and had him see several other specialists. I reintroduced the septal splints repacking the nose. He wore the splints for a while, but they gave him so much trouble and irritation that these were removed and we decided to do nothing more. A good result was finally secured.

In regard to septal deviation in childhood: In the Archives of Otolaryngology, April, 1930, appeared an article by Dr. F. W. White, of New York, on Submucous Resection in Childhood. He states that he has done over one hundred such operations and is in favor of a conservative operation rather than a radical one. I have never tried it personally. I have used the method of which Dr. Hester spoke, which usually gives some measure of relief. These children get fairly well, but in the majority of these cases a submucous operation is necessary when they arrive at the proper age.

John F. Barnhill, Indianapolis: There are two points in the paper which I wish to discuss briefly. First, I wish to express my belief that adenoids and tonsils are oftener responsible for deformity of the nasal septum than any other cause. My reason for this belief is that any child who must breathe through the mouth will suffer ultimately from proper development of the hard palate. The reason for this is that under noraml conditions the tongue fills the mouth completely. The pressure of this powerful organ on the roof of the mouth molds it into a domelike arch while it is developing. If the mouth must be open the tongue cannot exert this pressure and hence the roof of the mouth forms a cathedral arch instead of a dome. Such an arch pushes the septum upward out of place and causes a deformity.

Second, it is my belief that we overemphasize the idea of waiting until a certain stated age before operating on deformities of the septum. Quite a number of years ago someone started the dictum that early operating on the child's septum resulted in deformity, and most operators have followed this dictum ever since. I do not believe it is based on good reason. At any rate it has not proved to be harmful in cases I have operated early. It is my belief, therefore, that the proper time to operate is when it is clearly proved that an operation is necessary. To await the age of sixteen is only to court new difficulties in the way of respiratory troubles including asthma and oral difficulties of several types.

I have a decided feeling that there is one sentence in the English language that has done great harm. It is the sentence often used in medicine, namely: "Let the child alone and he will outgrow his trouble."

D. M. Griffith, Owensboro: So far as adults are concerned, submucous resection is the procedure of choice for correcting deviations of the nasal septum. In children, however, there has always been some question as to the best course to pursue. I doubt whether we should take the risk of performing submucous resection on a child during the growing period. We know that Mother Nature is a wonderful physician and that she does overcome a great many difficulties. A number of years ago Brown advocated, where there was a very high arched palate, spreading the palate from behind forward and thus providing greater space in the mouth and nose. I tried that procedure in several cases and found it not only straightened the teeth but helped the septum. My present method is, where there is a very high arch with slight overlapping of the edges of teeth, to apply a dental jackscrew and spread the arch about one-eighth of an inch. Nature will then outgrow some of the deformity and the septum will become straighter.

Edmond D. Wells, Louisville: I have enjoyed Dr. Salmon's paper. In regard to mouth breathing: It is a well known fact that an individual may have a perfectly straight nasal septum and still be a mouth breather. As has been said, some people have breathed through the mouth for a number of years, and it is difficult to correct that. Submucous resection of deviated nasal septum does not make nose breathers out of such people in every instance.

J. D. Williams, Ashland: It is my practice to remove the packing, gauze or Bernay's not later than eight to ten hours. In my opinion it would be decidedly unwise to allow it to remain beyond twelve hours. Frequently I use one or two rubber tubes that drainage and aeration may not unduly be interfferred with. I am wondering whether it would be a good idea to use two of these thin walled tubes, superimposed, in each nasal chamber. It seems this would be infinitely less irritating than the gauze or other packing and give the patient the boon of nasal breathing during the continuation of the worst congestion and one or two of the tubes might well remain for several days, if indicated.

I had the submucous operation performed on my own person, and it was many weeks before I had satisfactory nasal breathing. After submucous resection I tell my patients not to blow the nose for at least two weeks. I think removal of the septum is one of the most satisfactory operations in the whole realm of surgery because results are uniformily good, in its proper application. In practically all cases of socalled catarrhal deafness there is some degree of septal deviation, and in the great majority of these cases submucous resection is a vitally important step in the treatment.

David L. Salmon, Madisonville, (in closing): In considering a paper of this kind I realized there would be various opinions regarding some of the minor details of operative technique. However, I feel like the discussion of these details and the consideration of handling submucous resection in children has been well worth while. The submucous resection is not a cure-all but in selected cases will give good results.

The firm packing of both sides of the nose although uncomfortable for twenty-four hours, reduces the frequency of hematoma. There is no particular justification in operating in one side of the nose in all cases, it is merely a technique I follow.

A QUESTIONNAIRE ON SOME OF THE PROBLEMS CONCERNING TONSILLECTOMY*

HARRY D. ABELL, M. D.
Paducah.

When this questionnaire was prepared, it was done, not with the idea of presenting it before this, or any other society, but was simply an effort to find out the present day status of the various anesthetic agents now being used in tonsil surgery. I thought the data obtained sufficient to form a basis for a few remarks on the tonsil problem in general. Unlike most papers written on such a commonplace subject, I have no apology to offer. Compared to the number of men now engaged in the practice of otolaryngology, the views, (40), obtained from the questionnaire, I admit is quite insignificant. However, it was not our idea to merely obtain a large number of opinions, but we did try to get an expression from the leading medical schools, teaching hospitals, clinics, and from men who are looked upon as authority on this subject. Practically every man whose opinion is represented in this report has devoted a great deal of time to research and teaching. The cities represented in this report are Chicago, Baltimore, Detroit, Cleveland, Philadelphia, Columbus, Rochester, Minn., Louisville, Memphis,, New Orleans, Brooklyn, Indianapolis, Pittsburgh, Denver, Lexington, St. Louis, Ann Arbor, Los Angeles and San Francisco.

It is unnecessary, and would be tiresome to mention every report separately. A summary of this report which is given below, shows as most any sensible person would expect, that there is no one set way of doing tonsil operations successfully. We so often find tonsil specialists, or as Little[1] has so fittingly called them, "The Slight of Hand Performers," who try to sell themselves to their patients, and the community at large, by their ability, and theirs alone, of removing tonsils by some unusual, efficient method. Recent years have added to this group a number of operators who have supplemented their armamentarium with various electrical devices for the coagulation of the tonsil. General surgical principles should be applied to tonsil operations, just as in any other surgical procedure, for enucleation of the tonsils, when properly done, is a major operation. Some important points in tonsil surgery might be summarized as follows: First, is the patient a surgical risk? Second, preparation of the patient for the operation. Third, the anesthetic. Fourth, the removal of all tonsil tissue with the minimum amount of trauma. Fifth, control of hemorrhage. Sixth, post-operative care and sequelae.

Complete physical examination, together with the laboratory findings should determine the surgical risk of the patient. Hemophilia and status lymphaticus are probably the only universal contra-indications to tonsil operation. Cases with marked anemia, angina-pectoris, acute pulmonary tuberculosis exophthalmic goiter, in which surgery of the thyroid is expected to be done and most all acute infections should be done with very careful consideration, and then only when insisted upon by a competent internist.

Tonsillectomy is rarely an emergency, so more time should be taken to get the patient in as good condition as possible for the operation.

As to the preparation of the patient for the operation, one can usually start an argument as to whether it is always necessary to hospitalize the patient. Some competent men are doing tonsil operations in their office. However, it is my opinion that all tonsil cases should be in the hospital and unless they have been examined thoroughly by their family physician, it is best to have them in the hospital the day before the operation, where they not only have the benefit of the physical examination, but the rest they get is a great help to them. Patients are allowed to have their usual meal the night before, but are not allowed breakfast the morning of the operation, regardless of the type of anesthetic to be used. One-eighth gr. of morphine, 1/150 of atropine is given all adults 20 minutes before the operation. No narcotic is given in children.

In selecting the anesthetic, there are three people to be considered, namely, the patient, the surgeon, and the anesthetist. The patient's general condition usually determines whether or not it is best for him to have a general or local anesthetic. If the general condition is such that either local or general could be used, then it is up to the surgeon to select the anesthetic under which he feels he can give the patient the best results.

A few patients will absolutely refuse to have a local anesthetic while others will absolutely refuse a general. If the patient is to have a general anesthetic, then the selection of the anesthetic becomes a very important factor. The anesthetic agent which the anesthetist is sure that he can give with a minimum risk to the patient should be selected. If gas anesthesia is to be used, it requires, first of all one very skilled in the administration of this type of anesthesia. In my opinion, gas anesthesia alone has a very limited place in tonsil surgery.

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*Read before the Eye, Ear, Nose and Throat Section, Kentucky State Medical Association, Louisville, June 4-5, 1930.

J. Ross McKenzie[2], lecturer on anesthesia, University of Aberdeen, states that anesthesia in children with gas and oxygen is a much more difficult procedure than is found in the adult, and the time required for induction, even when successful, is a serious obstacle to its routine use with the ordinary gas bag and valvular apparatus. In other words, it requires special apparatus as well as an expert anesthetist.

Several years ago, Gwathmey made the statement that nitrous oxide is the most dangerous anesthetic agent now in use. So far as I know, this statement has never been retracted. Gwathmey's response to the questionnaire, states that as a general proposition, he thinks a local anesthetic preferable to general in adults. He states further that he uses nitrous oxide and ether, but he thinks that ethyline and oxygen is preferable. No doubt many deaths occur from nitrous oxide which are not reported.

J. F. Baldwin, from personal communication April 16, 1929, states that there have been 32 known deaths from nitrous oxide in Columbus, four of them in dental offices.

Evans[3], of Buffalo, states that nitrous oxide anesthesia is dangerous in the hands of a novice. Because an anesthetist is qualified to give an ether anesthesia, does not qualify to give gas. The fact that gas is used very little in countries where anesthesia is not a specialty would tend to prove that gas anesthesia should be used only by men who have had a great deal of experience and have made a specialty of the administration of this form of anesthesia.

Byrd[4], reports a series of 300 cases of tonsil and adenoid operations in which he used a closed method of ethylchloride and oxygen successfully. This is probably the most unpopular of all general anesthetics.

No doubt in the near future we will hear more about narcosis being produced by the injection of certain drugs intra-venously. However, the data obtained from the questionnaire and the literature as a whole show that for a general anesthetic, ether is still the anesthetic of choice and is no doubt the safest anesthetic now in use. Out of all the questionnaires sent out, only one man reported the use of gas anesthesia exclusively. Our own preference is a light ether anesthesia for children and a local of 1% novocain for adults. If it is possible to have an expert anesthetist, there is no objection for preceding the ether with gas, preferably ethylene and oxygen. I can see no reason in the world for giving an adult a general anesthetic to remove tonsils.

Lillie has reported that in the past eleven years, 35,000 tonsils have been removed at Mayo Clinic, ages from 8 to 84, under local anesthesia. Practically every accident reported from the use of a local anesthetic has been from carelessness, in most cases too concentrated or the wrong agent being used.

While it is a debated question as to the exact cause of lung abscess, yet it is known that aspiration pneumonia occurs and the anesthetic itself has its own complications, so why submit your patient to this added risk when there is absolutely no reason for doing so, except to satisfy the fancy of the operator or to please a few very nervous patients. Some of the most excitable individuals, when properly handled and with a bit of reassurance from the operator, often make ideal patients.

The actual technique should be that which the operator can do best. No criticism can be made on any technique so long as all the tonsil tissue is removed, without unnecessary trauma to the other soft tissues of the throat and all bleeding points controled at the time of the operation.

The greatest objection to the slight of hand operator, is that the only thing he seems to have in mind is to see how quickly he can enucleate a pair of tonsils, making no attempt to control the bleeding and rarely does he even inspect the throat to see what the result of his wonderful trick really is. Dissection and ligation of all bleeding points is probably the most ideal type of operation from the surgical viewpoint. This is the operation that we used until recently, when we were introduced to a modified Sluder instrument, which carries a blunt haemostat beneath the blade. This instrument is used in practically all cases where the tonsil has enough body and not too much to be engaged in the ring of the instrument. The chief and probably only reason for using this instrument is due to the fact that in practically every instance a bloodless operation can be done with simplicity. The tonsil is removed and the haemostat allowed to remain in place some 2 to 4 minutes, depending on the coagulation time. It is a well established fact that it is the amount of blood lost and not the time of the operation or the type of anesthetic which has the most, if not all, to do with the post-operative shock.

The post-operative treatment depends largely on the reaction of the patient. Some patients, especially children, have practically no reaction and require little or no post-operative treatment, except probably an alkaline mouth wash and the usual care of the teeth. If edema of the uvula is such as to annoy the patient, it is best relieved by scarification and application of astringents. The patients are allowed fluids 4 hours after the operation and any food they desire 24 hours later. A laxative is given the night before and the night following the operation. Complications or sequelae following tonsillectomy have not been considered in detail. Post-operative hemorrhage is mentioned because it may and does occur in a small per cent of cases, regardless of technique used at the time of the operation. The annual report of the Royal Victoria Hospital[5] for the year 1926, probably represents or summarizes the post-operative hemorrhage question as it really is under ideal conditions. McNally states that in this series of 1416 tonsil and adenoid operations, post-operative hemorrhages, both primary and secondary, were more common following the guillotine, than following the dissection and snare. The former showed 2.6 per cent post-operative hemorrhage, and the latter, 7%.

This is probably not a fair comparison in the two types of operations because 89% were operated by a snare while only 11% were done by a guillotine. All the operations were done under ideal conditions so far as was possible and bleeding points ligated at time of operation.

A few points concerning lung abscess are brought out in the questionnaire. 1st. Lung abscess may follow both general and local anesthesia. 2nd. More common following general anesthesia. 3rd. May be result of aspiration or infected emboli. From the number of cases showing blood in the tracheobronchial tree following tonsillectomy, it is surprising that more lung abscesses are not seen.

Clerf[6], from the Chevalier Jackson Bronschoscopic Clinic, Jefferson Medical College, reports that lung abscess occurs more commonly in patients aged from 20 to 40. He reports further that 73 out of 77 cases followed general anesthesia.

The questions and summary of opinions obtained from the above mentioned questionnaire are as follows:

To the first question: In tonsillectomy in adults, do you prefer local or general anesthesia? 74% were for local anesthesia, and 26% for general.

To the second question: If general, do you use ether or gas? 40% for ether alone, 52% for gas induction with ether, nitrous oxide alone 4 %, ethylene and oxygen 4%.

To the third: In your opinion is gas (nitrous oxide), a suitable anesthetic in tonsillectomy? One man reported yes, one other reported yes, only in very exceptional cases.

To the question: Have you had any deaths which you thought were due directly to the general anesthetic? Two men reported deaths without giving any details. A similar number were reported following local anesthesia.

The answer to the question: Have you had, or to your knowledge has there been reported, any deaths due to nitrous oxide anesthesia? Naturally, with only one man reporting using nitrous oxide anesthesia alone, we would not expect to have any deaths reported. However, four men reported to have knowledge of deaths due to nitrous oxide anesthesia.

The next question was: In your opinion, or experience, has lung abscess developed more often following ether, nitrous oxide, or local anesthesia. Nitrous oxide and ether 52%, local 35%, and nitrous oxide alonge 13%.

The next question was: Is lung abscess more likely the result of infected emboli, or aspiration? Infected emboli 18%, aspiration 60%, both 18%, and in 4% no opinions were given.

SUMMARY

1. Tonsil operation when properly done, is more than a minor operation.

2. There is no one set way of doing tonsillectomy.

3. General anesthesia is not necessary in adults.

4. Gas inhalation with ether is anesthesia of choice.

5. Complications in tonsillectomy are more common in general anesthesia.

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DISCUSSION

Shelton Watkins, Louisville: Doctor Abell has given us a most interesting paper and, as he says, one very fruitful for discussion. There is no more important subject before the laryngologist today than tonsillectomy, because it is the most frequent operation he performs.

In preparing for the operation, the first consideration is the condition of the patient as a surgical risk. Most hospitals now require urinalysis and coagulation tests. This should be supplemented by a general examination, especially of the chest. If there is any doubt in the mind of the internist about the patient being in condition for the operation, it should be postponed.

In adults cases, I prefer local anesthesia but usually let the patient decide, provided there is no contra-indication to either general or local. I feel he has some rights and that the doctor should not be too "bossy". Of course local anesthesia is not suitable for a very nervous patient. On the other hand, a general anesthetic should not be given when the general health is not very good, such as a heart or kidney lesion.

When the general health is poor, the operation should not be done. In children a general anesthetic should, I feel, always be given, unless there is some strong contra-indication. It is true that in some children tonsillectomy can be successfully performed under local anesthesia, but in many more cases it cannot be done satisfactorily, because it is impossible to secure the confidence of the child. When a general anesthetic is given I prefer as a rule, to start with nitrous oxide-oxygen and then follow with ether. Ethylene has a slight advantage over nitrous oxide in that the patient can be anesthetized quicker and the anesthesia is smoother. On the other hand, it has the disadvantage of a much greater danger of explosion which, I think, far out-weighs its advantages. Not a few accidents have been reported and it seems to me too much is at stake and so little is to be gained by using it.

It is advisable that the patient have a period of rest before the operation, particularly when he lives out of the city. The general preparation, such as intestinal elimination, diet, etc., are of course, just as important in tonsillectomy as in any other operation.

The type of operation, usually, is a matter of choice to be decided by the individual operator according to his experience. Some men do a very satisfactory operation with one method and others just as well with another, so it really makes little difference as long as the operation is thoroughly done. I do not consider any tonsillectomy well done unless the hemorrhage is controlled before the patient leaves the operating room. This can be accomplished effectively in tonsillectomy cases.

The post-operative care consists largely in leaving the patient alone as much as possible. For the control of severe pain codeine or morphine may be given a few times without doing harm.

The type of operation has nothing to do with causing secondary hemorrhage. It is due to sloughing of granulation buds and may occur at any time within the post-operative course, but usually between the third and seventh days. Possibly, undue activity of the patient is a factor in some cases, but it will sometimes occur no matter how quiet he may be.

Lung abscess is a very much discussed subject and there is much difference of opinion about it. Doctor Cutler, of Cleveland, is a strong advocate of the embolic theory and has contributed some very valuable evidence in favor of it. Doctor Crowe, of Baltimore, has experimentally produced abscess in the lungs of dogs by depositing in their smaller bronchi septic material from infected tonsils. The experimental evidence is conflicting. The clinical experience seems to me to strongly favor the aspiration theory. Lung abscess has been reported as a complication of many operations other than tonsillectomy, but in the greater number of these cases a general anesthetic was given. The fact that lung abscess occurs much more frequently after tonsillectomy than any operation and that it is much more often after tonsillectomy under general anesthesia, is, I feel, strong evidence in favor of the aspiration theory. Dr. Ignau, of Cincinnati, has raised the interesting point that under local anesthesia the larynx may be partially anesthetized and in that way there is danger of infected material being aspirated into the smaller bronchi due to the loss of the cough reflex. This may explain the cases of lung abscess that develop after tonsillectomy under local anesthesia.

Claude T. Wolfe, Louisville: We gather from Dr. Abell's very interesting and timely paper that in the adult tonsillectomy he prefers a local anesthetic. In this respect I am heartily in accord with his views, as it is our custom to operate at least 80 per cent of adult patients under local anesthesia.

Our reasons for prefering the local to a general anesthetic are as follows: The operation can be done practically without pain. The patient is not subjected to the possible dangers of a general anesthetic. The operation can be done in many instances before the patient is completely narcotized under general anesthesia. It is practically bloodless and there is less danger of complications, especially lung abscess.

Late primary and early secondary bleeding are about equal in both cases and in this connection it is our experience that only about 1 per cent of operated cases, whether local or general anesthesia is used, have hemorrhage.

Since scarcely any bleeding is encountered at the time of operation under a local anesthetic the danger of aspiration of blood and infected material is greatly minimized. This is undoubtedly responsible for the few cases of lung abscess that have come under our rather large clinical and private observation.

To gain the patient's confidence and co-operation is quite necessary. If he is inclined to be refractive and intractable I have him come to the office several times before the date of operation and acquaint him with every step of the procedure. He is assured that no real pain will be experienced. We try to impress upon him the necessity of co-operation on his part and insist upon complete relaxation. A wide open mouth and deep regular breathing. If the patient follows this advice and complies with our requests the operation is assured of success.

It goes without mention that all of our adult patients coming for tonsillectomy have been given a careful examination by a competent internist. This is quite necessary. The usual laboratory work consists of a clotting test, bleeding time, blood pressure and urinalysis.

If all reports indicate that the patient is in an operable condition we set the time about three days later and begin the administration of calcium.

With all reports favorable we administer morphine sulphate gr. 1/6 scopolamin gr. 1/200 one half-hour before the operation. This hypodermic induces a state of calmness which materially simplifies the operation.

We prefer our patients in a semi-reclining position for the operation. Topical applications of cocain Hyd. (10%) are applied to the tonsils and adenexa. This is done to facilitate the grasping of the tonsils by a forceps in order to draw them forward into the pharynx to lessen any discomfort incident to the infiltration of the 1 per cent novocain into the retro-tonsillar spaces.

Little more than 10 cc. of 1% novocain, to which is added 10 mm. of adrenalin, 1/1000, is injected into the two tonsillar areas. This usually gives good anesthesia after 10 minutes have elapsed and we begin the dissection of the tonsils. Of necessity all hemorrhage is controlled before the patient is returned to his room. This is done by ligation and the application of hemostatics. The ligation of bleeding vessels in the tonsillar fossa is an easy matter. I use an ordinary cleft palate needle and linen thread. The linen usually sloughs out in a few days and therefore its removal by hand is not necessary.

The patient is returned to bed with his face downward and an ice bag is applied to the throat continuously for at least twenty-four hours. Aceto salicylic Acid is quite gratifying and occasionally the application of carbolic acid to the fossae is advantageous. On the whole remember that the after treatment may make your patient more comfortable and an everlasting friend.

A. L. Bass, Louisville: If you want to start an argument among nose and throat men, just mention the tonsils. As I know there are several others who wish to discuss the subject, my remarks will be brief. Electro-coagulation has been mentioned. I have seen a few cases in which this method had been used by others in tonsil work. In my opinion the method is contraindicated, and very few nose and throat men are now using electro-coagulation. How can they limit the action of this agent to diseased tissue to the exclusion of healthy tissue? In the cases I have seen electro-coagulation had produced a large amount of scar tissue.

About ten days ago I did a tonsillectomy on a lady from out of town and the same day her son, at college, had his removed via electro-coagulation. As she was going to pay him a visit and return home together, I asked her to bring him by the office and let me see his throat. His tonsils were disturbed very little. He was told it would take some time before he would get the benefit of the coagulation.

As a preliminary to tonsillectomy under local anesthesia in adults: If they are nervous and apprehensive, give them ¼ grain of morphine and 100th grain scopolamine. This combination is better than atropine. I used to give atropine first, but it makes the patient irritable and increases the dryness of the oral cavity. Especially in adults, it has been the custom to administer a laxative prior to operation and also have complete urinalysis made. If the patient is in good general condition no laxative is needed and I can see no necessity for giving one. If there is too much acidity, alkalinize them; if there is indican, clean out the intestinal tract. In short, have the patient's system in good condition and he will stand the operation much better; not be so likely to be bothered with post-operative nausea and vomiting. I believe in taking clotting time of the blood, especially in adults, it is important. I like to see the clotting time below seven and a half minutes. I recall Dr. Barnhill in discussing clotting time in his paper at the Academy meeting last fall, stated that several good men did not believe there was much reliability to be placed in the clotting time. The agents I use to lower the clotting time are ceanothyn and styptysate.

Octavus Dulaney, Louisville: The use of adrenalin in connection with tonsillectomy represents a rather serious problem. About four years ago I operated upon an interne at the City Hospital. It was customary, at the time, in preparing the local anesthetic for tonsillectomy, to use one minim of adrenalin chloride to each dram of solution to be injected. I recall that this man developed alarming symptoms following injection of this mixture and it required some time to restore him to condition where we could operate. I have observed several other similar cases, and have now practically discontinued the use of adrenalin chloride in tonsil work. I employ novocaine solution as the anesthetic agent for tonsillectomy. I never use cocaine because of its toxicity.

For the production of anesthesia I do not inject the tonsil proper, the needle is introduced between the anterior pillar and the pharyngeal muscles, making three injections on a line with the upper, middle and lower third of the tonsil. It is desirable to have perfect anesthesia at the lower pole of the tonsil, injection of the posterior pillar is unnecessary. The tongue becomes so numb that it would make aspiration difficult, also the adenoid tissue can be removed without pain. I have removed adenoids and tonsils of many small children, seven and eight years of age, by this method of anesthesia without any trouble. Apparently better anesthesia is produced in children than in adults. If there is much scar tissue, it matters not what method you use, there will not be much anesthesia.

One thing I want to condemn is ethyl chloride.

Several years ago this agent was used rather extensively as a local anesthetic and some very serious symptoms occasionally resulted. We cannot foretell what the effect of ethyl chloride will be on the patient. I recall one case where a child in the City Hospital, was given ethyl chloride which was followed by intense respiratory depression. We worked with that child four hours before the respiratory depression was overcome. Oxygen and various other means were employed. Several deaths have occurred from the use of this agent. I recall having seen a case in Chicago not many years ago where the patient died four hours after ethyl chloride had been employed.

J. H. Hester, Louisville: One of the previous speakers raised a question which should be given serious consideration, that is the employment of electro-coagulation in tonsil work. In my opinion, this method is indicated in only one type of case, namely: in an individual who is a hemophiliac and who has badly diseased tonsils. If one has had exeprience with electro-coagulation, I believe it is feasible to remove the tonsils by that method. In some instances, however, we may accomplish very little good and may seriously damage the throat. Electrocoagulation is not a very simple procedure.

In regard to tonsillectomy under general anesthesia: I believe ether is the preferable anesthetic for this purpose. The patient should be kept on the table the shortest possible time consistent with good surgery, and the least possible amount of anesthetic should be administered.

I have never had to ligate a single blood vessel in performing tonsillectomy in children, nor do I believe it is necessary to prolong the anesthesia to permit ligation of the small vessels. There is slight bleeding for a short time, but I have never seen an instance in which any trouble followed.

John F. Barnhill, Indianapolis: The essayist has covered the subject so thoroughly that there is little to be said in discussing his paper. I would, however, wish to emphasize what the last speaker said concerning electro-coagulation. I think we should condemn that kind of surgery, as it does not accomplish what is desired, and is bad practice. Electrocoagulation does not mean tonsillectomy, since after its employment the crypts are still present, and hence as we all know, tonsillar disease lies chiefly in the crypts, and if in tonsillectomy or other treatment we do not destroy the crypts, we will not cure the disease. Electrocoagulation does not accomplish this purpose.

Chas. K. Beck, Louisville: I wish to emphasize what the previous speakers have said about electrocoagulation and desiccation as methods of removing tonsils. In the last few months I have seen two men whose tonsils had supposedly been removed by electrocoagulation. I recently operated on one of them. His condition was worse than before, and my operation was made much more difficult because of scar tissue and the thickened plicae. The other patient is also in worse condition than before, but has not yet been operated upon.

In my opinion the most pronounced contraindication to either of these methods of so-called tonsillectomy is to be found in hemophiliacs ("bleeders"), notwithstanding what Dr. Hester has said. One of the patients to whom I have referred, told me that about a week after electrocoagulation was practiced, he and his wife went to a show, and he had to leave to "spit out a piece of tonsil" and he lost considerable blood along with it. I think, for this reason, there is more danger of hemorrhage, and loss of life from this cause, after electrocoagulation than following operation.

In my opinion, these methods should be mentioned only to be condemned.

H. D. Abell, Paducah, (in closing): I appreciate very much the charitable discussion of my paper, and I am especially pleased that it brought forth a resolution condemning the electric coagulation of tonsils.

TUBERCULOSIS OF THE LARYNX: TREATMENT WITH THE ELECTRO-CAUTERY*

WILL R. PRYOR, M. D.
Louisville.

The frequency of laryngeal tuberculosis complicating phthisis has been estimated by various authors as from 5 to 50 per cent, but the best information at hand places the figure at about 15 per cent. It is most common between the ages of 20 and 40 years. Primary tuberculosis of the larynx is so rare as to constitute a medical curiosity. It is always secondary to pulmonary tuberculosis.

The symptoms depend on the location of the laryngeal lesion. When the interior of the larynx is affected, hoarseness is always present. If there is extrinsic involvement alone, pain may be the only symptom. When the lesion reaches the aryepiglottic fold pain always supervenes. With ulceration of the cords, particularly the approximating edges, there is pain on phonation. The extrinsic type gives pain on swallowing. It is possible, therefore, to have a tuberculosis of the larynx without any disturbance of the voice. Conversely, not every case of hoarseness in a tubercular patient can be attributed to laryngeal tuberculosis. The value of a careful laryngeal examination is thus evident.

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*Read before the Eye, Ear, Nose and Throat Section of the Kentucky State Medical Association, Louisville, June 4th, 1930.

Too great stress cannot be laid on the value of an early diagnosis, for if recognized before the terminal stage is reached and proper treatment instituted, most of these cases can be cured. Freudenthal urges that patients with persistent hoarseness, apparently due to a simple laryngitis and not presenting symptoms of alcoholism or constitutional disease, such as gout or rheumatism, should be given a careful chest examination.

Tuberculosis of the larynx has one characteristic which occurs often enough to make it a valuable diagnostic point, namely: its tendency to be unilateral. Redness of one cord, infiltration of one ventricular band, involvement of the interarytenoid space, a little more marked on one side than the other, all these point to its tubercular character.

Tuberculous ulceration and infiltration are essentially superficial, and it is after secondary infection that we get deep ulceration and sloughing.

The three other diseases with which laryngeal tuberculosis may be confused are: catarrhal laryngitis, syphilis of the larynx, and neoplasm. In catarrhal laryngitis there can be found pathology in the nose, sinuses, tonsils, or teeth. Also there is generally a more diffuse redness of the larynx. Pachyderma in the interarytenoid space may, at times, tax one's diagnostic skill to differentiate it from tuberculous infiltration. Syphilitic ulcers are deeper and more "punched out." Also there is an angry-red-appearance to the entire larynx. The Wassermann reaction is positive.

Malignancy occuring in a tuberculous patient may be very difficult to differentiate. Age is, of course, a help. In all doubtful cases a specimen should be taken from the suspected area. This can be done very satisfactorily transglottically under local anesthesia.

Forty years ago Morrell MacKenzie stated: "It is not certain that any cases of tuberculous laryngitis ever recover." However, in the present day, due to the fact that phthisis has decreased in malignancy, and that we have improved methods of diagnosis and treatment, we now know that many recover. The laryngeal lesion, per se, rarely kills the patient. The most feared complication is extension of the process extrinsically and the resulting pain on swallowing. Thus in the past, patients so affected have usually died from inanition.

The first consideration in treatment is, of course, the constitutional. Frequently the chest and laryngeal conditions go hand in hand. Local treatment with escharotics has long since been abandoned by the more advanced men in the field as doing more harm than good. Twenty years ago curettage and even surgical removal of involved areas were advocated by many. These methods have fortunately fallen into disuse. In my experience oral or nasal surgery in an active case of tuberculosis always gives unfavorable and frequently fatal results. Injection of the superior laryngeal nerve undoubtedly gives help in extreme cases, but I have never found it necessary to resort to it. Chaulmoogra oil has been used in some sections, but its most ardent exponents claim only palliative, not curative, results.

One of the most valuable types of treatment for tuberculosis of the larynx is rest of the voice. This means absolute silence. A pencil and paper should be used. The chief difficulty is in obtaining the whole-hearted co-operation of the patient. This is particularly true of women. Whatever treatment is instituted, vocal rest should be supplementary to it.

For a number of years Waverly Hill Sanatorium has treated laryngeal tuberculosis with sunlight by means of the solar laryngoscope made by Venoa and Co., of Colorado. It consists of an aluminum and magnesium mirror which reflects the sunlight from a larger mirror of the same material directly into the larynx. The patient is started at one minute and the exposure is increased one minute each day until ten minutes is reached. If the light is well tolerated and the physical condition good, treatment may be started in the afternoon at one minute and increased to five. Excellent results have been obtained with the mirrors, and this method has been the usual routine procedure. However, there are certain cases in which none of the foregoing methods have been of any avail. These are the types in which we have come to rely on the electrocautery.

Some of the earliest investigative work on cauterization was conducted by George B. Wood in 1910. He injected attenuated strains of tubercle bacilli into guinea pigs, cauterized the resulting lesions, and then made sections of these areas. He showed that the cautery produced an inflammatory reaction and revitalized tissues by increased hyperemia and the formation of new blood vessels with later fibroblasts.

Dr. George H. B. Terry, of Otcena, N. C., has used the cautery on a series of sixty-five cases of laryngeal and oral tuberculosis, and advocates its use exclusively in this type of cases.

Looper and Schneider have collected statistics over a five year period on five hundred cases of tuberculous laryngitis, at the Maryland State Sanatorium. They report that of the moderately advanced cases cauterized, 65.5 per cent were improved and healed. Of the far advanced cases, 26.5 per cent were improved and healed. For active treatment of the local lesion, they have found the cautery most beneficial and advocate its judicious use in preference to all other methods of treatment.

Of the twenty-seven patients operated on by me at Waverly Hill Sanatorium and in private practice::

12 received one cauterization
9 received two cauterizations
2 received three cauterizations
3 received four cauterizations
1 received nine cauterizations
6 had moderately advanced tuberculosis
21 were far advanced cases
13 had heliotherapy
Several had an avulsion of the phrenic nerve either preceding or subsequent to cauterization
Two were taking pneumothorax at the time of cauterization
In thirteen pain on swallowing was the predominating symptom.

Of the six moderately advanced cases treated, the larynx in four was healed, and in two markedly improved. In five of these the chest condition has become quiescent. One has progressed to a far advanced state.

Of the twenty-one far advanced cases, the laryngeal condition was improved in fourteen. The lesion was healed in four. One patient developed tuberculous ulcerations in the mouth and tonsillar fossae. These were treated with the cautery. Three of the ulcers were healed and two prevented from advancing. The laryngeal condition improved following cauterization, but later retrogressed. The patient had a septic temperature and was very near the point of death. As pain was not too severe, cauterization was not repeated. It is not our custom to cauterize acute cases where the patients have a septic temperature, unless they are threatened with inanition because of pain.

The chest condition of these far advanced cases was improved in eight, stationary in three; four were unimproved, and six died. In every instance pain on swallowing was relieved by the cautery.

In one case, in which the patient went home from the institution to die, the cautery has been used nine times. The epiglottis has been reduced from a large hood-shaped mass completely obscuring any view of the larynx to nearly normal proportions. Intrinsic cauterization has been employed twice. There has been no pain for five months, the patient has gained thirty-four pounds, the chest condition is improved, and the chances for recovery are very bright.

It has been my practice to use the cautery: Firstly, on cases which have had a number of months of silence with use of the mirrors and have either not improved or have, in spite of improvement, some residual ulcers or infiltration which weeks of sun treatment had patients are too weak to take the mirrors. With one or two cauterizations I have often been able to heal ulceration and melt away infiltration which weeks of sun treatment had helped but little. Thirdly, most spectacular results have been obtained in patients who were having pain on swallowing; the relief from dysphagia is immediate. A patient who previously can scarcely swallow liquids can, on the next day, eat with little or no discomfort. Following cauterization absolute silence is required. Codeine sulphate is given for pain or cough. No liquid is allowed for three hours.

The procedure is comparatively simple. The pharynx is cocainized with a fine droplet spray of 3 per cent cocaine. Following this, applications are made to the larynx with a camel hair laryngeal brush, dipped in 20 per cent cocaine. Perfect anesthesia may be obtained in this way. The cautery of Dr. Franz Hasslinger, of Vienna, is used, the platinum tip being heated to a white heat. The patients complain at times of a slight stinging as the tip is plunged into the affected area. Some patients experience no after-pain, or have a feeling similar to sore throat for a day or two.

SUMMARY

Laryngeal tuberculosis is in many instances curable. Early diagnosis is extremely important. Rest of the voice is supplementary to any type of treatment employed.

Direct sunlight is of value in the milder cases. In extensive or progressing lesions, especially if accompanied by pain, the electrocautery gives most gratifying results and is the treatment of choice.

DISCUSSION

Oscar O. Miller, Louisville: The paper read by Dr. Pryor has been very interesting and instructive. The incidence of tuberculosis of the larynx varies with the type of patients admitted to the Sanatorium. Those institutions accepting only first stage cases will have relatively few cases of laryngeal tuberculosis. For the past several years an increasing number of patients admitted to Waverly Hill Sanatorium have been far advanced. Last year 50 per cent of the patients admitted were in the far advanced stages of the disease. Our incidence of tuberculosis of the larynx averages about 20 per cent. In the diagnosis of suspected tuberculosis of the larynx transient hoarseness is a valuable sign, but this also occurs in apical pleurisies due to pressure on the recurrent laryngeal nerve. Another suggestive sign is pallor of the mucosa of the soft palate. Either of these signs should warrant a careful laryngoscopical examination. Occasionally an early malignancy of the larynx manifested by slight redness and ulceration of one cord may be seen which offers considerable difficulty in differential diagnosis. The absence however of any tuberculous involvement in the lung should be the deciding factor and automatically excludes tuberculosis of the larynx.

Dr. Pryor has well summarized the treatment of laryngeal tuberculosis. Many of these cases with simple redness of one cord or slight infiltration in the arytenoid with good resistance will recover with simple rest of the larynx. Where there is slightly more involvement we resort to heliotherapy to the larynx with the verba laryngoscope. The patients soon become experts in reflecting sunlight into the larynx. One of the first things noticed is relief of pain, the next is the diminution of inflammation in the larynx. Ulceration and infiltration require many months treatment before they disappear. Sometimes there is a residual granulation tissue which it is necessary to remove with the cautery. For those types of cases with marked infiltration and ulceration, associated with some edema the cautery is definitely indicated and brings about remarkable results in a short period of time. The cautery is particularly indicated in patients whose condition is such that it does not permit them to exert themselves sufficiently to take heliotherapy and finally in those terminal stage cases of tuberculosis where there is no possibility of recovery, cauterization will prevent an agonizing death where there is much involvement in the larynx.

Samuel G. Dabney, Louisville: The first thing I wish to say is that the prognosis of laryngeal tuberculosis is not as unfavorable as we once thought. Unquestionably more patients now recover from this lesion than did twenty-five years ago. Probably this is largely due to improved methods of treatment, especially sanatoria.

A few words about the diagnosis: I have almost come to the conclusion that I will not make a diagnosis of laryngeal tuberculosis where a competent internist says there is nothing wrong in the lung. I doubt very much whether primary tuberculosis of the larynx has ever occurred. Dr. Miller will recall a young man whom we saw together several years ago. He gave the history of redness and pain of one vocal cord. I did not make any diagnosis. I could not convince myself that the man had laryngeal tuberculosis. Dr. Miller found nothing wrong with the lungs. This patient went to Colorado and remained there for some time, but his condition did not improve. He finally returned to Louisville and again came to see me. He then had more swelling in the interarytenoid space; in other words, on his return from Colorado he was much worse than when he went. To make a long story short, this young man died and necropsy showed that he had cancer. That was the lesson I learned about making a diagnosis of laryngeal tuberculosis in the absence of tuberculosis of the lung. When the lungs remain negative I believe laryngeal tuberculosis is so rare as to be ignored.

There are some interesting things about tuberculous ulcers of the mouth. For many years I have believed that tuberculosis of the mouth is a fatal disease. I have never seen a patient with tuberculous ulcers of the mouth that recovered.

I was particularly interested in Dr. Miller's remarks about redness and inflammation of one vocal cord. I think he said it occurred fairly often without any lung disease, and that it got well sometimes in a few weeks. Heretofore we have considered that catarrhal inflammation of the larynx was never unilateral, and that redness of one vocal cord was always a grave sign, sometimes a precursor of manifest tuberculosis. Possibly we will have to reconsider this matter.

Edmond D. Wells, Louisville: Dr. Pryor is the only one in this section, so far as I am aware, who has used the method of treatment he has described, and who can speak with any degree of accuracy about the final results. We should support Dr. Pryor in this work by referring to him patients with laryngeal tuberculosis who require treatment by the electrocautery. He is to be commended for bringing the matter before this section.

Will R. Pryor, Louisville, (in closing): In answer to the question concerning the surgical removal of the epiglottis in the case which had received the largest number of cauterizations. I have reviewed the literature very carefully in regard to this type of treatment. It was advocated by Lockhart in 1910. Since that time there has been nothing written about it. This patient had infiltration of the entire larynx in addition to the epiglottis. I would consider it very poor surgical judgment to have removed the epiglottis. Not only would there have been shock attached to the procedure, but a raw bleeding surface would have been laid open to an already fulminating infection. The cautery has healed the lesion leaving the epiglottis intact. This is the opinion held by other men whose names I did not mention in the paper. They are: Levy, of Denver; Iglauer, of Cincinnati, St. Clair Thomson among others.

THE DIAGNOSIS AND TREATMENT OF ABSCESS OF THE BRAIN COMPLICATING EAR, NOSE AND THROAT DISEASE*

R. Glen Spurling, M. D.
Louisville.

In the field of neurological surgery, we like to think of the recent developments made in the treatment of certain diseases of the nervous system. These advances have chiefly been in technical operative procedures. As an example, we may cite the new electro-surgical method introduced by Cushing, which has made possible the radical removal of certain tumors of the brain, which heretofore would have been considered inoperable. Advances of a more fundamental nature have also been made in other phases of neuro-surgery. I have reference particularly to the renewed interest manifested in the sympathetic nervous system. When we pause to consider the progress which has been made in the treatment of infectious processes involving the central nervous system, we are impressed with the fact that little or no progress has been made in the past thirty years.

To review the literature on the treatment of brain abscess in particular, one is impressed by the wide variety of opinions as to proper methods. I believe that there is no new information which may not be found in a book published in 1893 by McEwen. As a matter of fact, he has reported a series of brain abscess cases with a mortality record which has never been equalled and in only a few instances even approached. His discussion of the mode of infection, diagnosis, prognosis and treatment has never been improved upon. This monograph has just remained a classic in the literature of neuro-surgery.

PATHOLOGY

I shall not attempt to review to this gathering the close anatomical relationship of the central nervous system and the ear and accessory nasal sinus. By far the greater number of brain abscesses develop secondarily to diseases of the ear. When one considers the close proximity of the meninges and the subarachnoid space to the middle and inner ear, mastoids, and semi-circular canals, it is surprising that so few patients with infection of these parts do develop intracranial complications. The pathways by which infections travel from the ear to the brain substance are disputed questions. However, it is generally agreed, I believe, that the most likely channels for spread of the infection are: (1) Through the blood vessels by thrombosis, or (2) direct extension through the meninges. In the case of direct extension, the most likely complication would seem to be meningitis, inasmuch as the subarachnoid space would be invaded first before the infectious process had involved the brain itself. If extension occurs through any one of the large number of veins or arteries in this area, the most likely complication would be abscess of the brain. Other less likely avenues for the spread of infection are: (1) By way of the lymphatics and (2) by way of the peri-neural space surrounding the cranial nerves.

The micro-organism which is responsible for brain abscesses may be one or all of the organisms causing the primary disease in the ear itself. The most common organisms are the streptococcus, staphylococcus and pneumococcus in pure culture or in any combination.

I believe it is generally agreed that chronic suppurative diseases of the ear and mastoid are more likely to develop intracranial complications than those of a more acute nature. On the other hand, I believe it is more common to have an acute disease of the accessory nasal sinuses develop intracranial complications than when the disease is chronic.

Solitary abscesses of the brain are more common than multiple abscesses. This is perhaps due to the fact that as the infection is deposited in the brain substance there is a tendency to "wall off" the inflamed area. This tendency to form a wall, however, is less well marked in the brain than in any other tissue of the body. Surrounding every abscess of the brain, there is an area of brain tissue immediately adjacent to the abscess cavity in which the cells are swollen and show evidence of degeneration. The amount of associated encephalitis in many cases determines the outcome of the case and dominates in many cases the clinical picture.

Abscesses of the brain if left untreated must of necessity follow one of three courses: First, the infectious process may be so thoroughly walled off that the abscess may lay incapsulated and eventually become absorbed or calcified. This is a possibility but of rare occurrence. Secondly, the abscess cavity will grow so much that it will eventually erode into one of the lateral ventricles. When this occurs, the infectious material becomes widespread throughout the cerebrospinal fluid space, and generalized meningitis results. Thirdly, the abscess cavity may be sufficiently close to the surface, that before it has attained sufficient size to even give clinical symptoms, it may rupture into the subarachoid space, and thereby cause a generalized meningitis.

SYMPTOMATOLOGY

Every patient with discharging ear, acute or chronic, sinus infection, acute or chronic, who complains of headache, drowsiness or vomiting should be considered to have an intracranial complication of such disease, until that possibility is excluded. I cannot hope in this paper to present the finer localizing symptoms and signs, the knowledge of which is necessary to make an accurate localizing diagnosis in cases of abscess of the brain. I shall discuss however, the general symptoms and signs which are most commonly noted in abscess of the brain regardless of its location.

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*Read before the Eye, Ear Nose and Throat Section, Kentucky State Medcial Association, Louisville, June 4-5, 1930.

(1) Headache is by far the most common complaint of these patients. The headache is described as being entirely different than the usual type of headache. It often fails to respond to mild analgesic drugs. It is usually present all of the time but subject to periods of exacerbation. It may be generalized or may be more prominent in the front or back of the head. In some cases it may be described as involving only half of the head; in that instance, the pain is usually on the side of the diseased process.

(2) Vomiting usually occurs in cases of abscess of the brain of fairly long standing. It may be projectile in type. It may or may not be preceded by nausea. In many cases, vomiting is the most distressing of the symptoms, inasmuch as it produces rapid dehydration.

(3) Drowsiness is generally present in cases of abscess of the brain; most particularly is this true in abscesses involving the temporosphenoidal lobe. The drowsiness is probably due in a large measure to the degree of associated encephalitis.

(4) Slow cerebration is commonly present especially in abscesses involving the frontal or temporal lobes.

(5) Fever may or may not be present. In the majority of uncomplicated brain abscesses, the patient is afebrile. If fever is present, it is usually of mild degree unless the abscess is associated with meningeal infection.

(6) Convulsions are said to be infrequent. In my experience , convulsions have occurred in over half the cases of cerebral abscesses. If convulsions do occur they are generally of the Jacksonian type. It is most important for localizing purposes to have the family or the nurse observe accurately the character of the convulsive seizures.

(7)) The pulse rate is usually slow, due to the increased intracranial pressure. The respirations may be slow and approach the Cheyne-Stokes type.

(8) Visual disturbances are common and may be the first indication of intracranial complications. Double vision is by far the most common visual symptom. Blurring of vision is an infrequent symptom, and when it occurs denotes papilledema. Some degree of papilledemia is usually present. This may be of an advanced or mild degree. Abscesses of the cerebrum, unless of large size, generally show a small amount of swelling of the optic disc. Abscesses of the cerebellum, however. are usually associated with a high degree of papilledema.

(9) Spinal Fluid findings are inconstant. There is generally present an increased cerebro-spinal fluid pressure. The fluid is other wise normal unless there is involvement of the meninges.

(10) Such symptoms as aphasia, paralysis, uncinate attacks, visual field defects, incoordination with dysmetric symptoms, when present, are localizing symptoms of tremendous importance.

TREATMENT

Usually there is no great surgical urgency in dealing with these cases, and plenty of time may be taken in a careful consideration of the problem. In the majority of instances, the patient is better off to have sufficient time to wall off the infectious process before any attempt is made to drain it. This is essentially true in cerebral abscesses where it is most desirable to have the subarachnoid space overlaying the abscess obliterated by adhesions before drainage is instituted. Such a walling off process obviously decreases the probability of scattering the infection into the cerebro-spinal fluid spaces.

There are available two methods for the treatment of brain abscesses. First: This method consists of a simple tapping of the abscess cavity without any attempt being made for permanent drainage. As Dandy points out in many cases of brain abscess, a single tapping is sufficient to effect a cure. This would seem to me to be essentially true in cases where there has not been a dense fibrous tissue wall leading downward around the infectious process. Secondly: After tapping the abscess cavity, a drain may be inserted into it with the hope of continuously evacuating the infected contents.

I have used both of these methods. In some instances, each has produced satisfactory results. In other instances, both have failed. My personal belief is that when an abscess is located, the contents should be evacuated, and the abscess cavity gently irrigated with some mild antiseptic solution, such as hexyresorcinal S. T. 37. half strength. If the cavity refills, and refilling, of course, is determined by the neurological signs and symptoms, then a second tapping is done, and an estimation of the contents made. If there has been a decided reduction in the amount of purulent material collected in the cavity, then constant drainage is not attempted. If, however, the cavity is refilled with approximately the same amount of infected material as at the first tapping, then a drainage tube is inserted. It is most important, in inserting a drainage tube, to place it in the most dependent portion of the cavity. My experience with drainage tubes has been most unsatisfactory. In the majority of instances they have failed to drain properly. I believe that this can be improved upon by the insertion of two tubes and then the pressure within the abscess cavity when drainage is attempted does not become negative. When one explorer the cerebrum for a suspected abscess, it is usually identified by the feeling of resistance which is met, with the exploring needle, when one comes in contact with the wall. It is best not to enter the cavity when the wall is located, but to re-explore in several directions to determine the size and extent of the capsule. When the most dependent portion is found by exploration, then the cavity may be entered with a brain canula and evacuated.

In the treatment of cerebellar abscesses, the same general principles hold true. I have been particularly fortunate in the treatment of brain abscesses in this location in that there have been five cases in the series and all the patients recovered. In four of the five cases, no attempt at continuous drainage was made. A single tapping was sufficient to cure three cases. In another one, two tappings were required. In the fifth case a tube drain was inserted into the abscess cavity, but never functioned properly. The patient recovered without any further exploration of the abscess cavity.

The question always arises as to the most desirable location for drainage of an abscess complicating ear disease. Many ear, nose and throat men advise exploration of the temporosphenoidal lobe and the posterior fossa through the mastoid wound. This seems to me to be a most unwise procedure. In many cases of suspected brain abscesses it is advisable to explore these regions of the brain without in many cases being perfectly sure that an abscess is present. Obviously, if one explores through an infected wound such as the mastoid into a normal brain, he will almost surely cause infection in the region explored. If, on the other hand exploration is made through a clean wound over the suspected abscess and fails to find pus then there is little or no danger of producing an operative complication. This factor alone convinces me of the advisability of abandoning the mastoid wound as the site for proposed drainage of brain abscesses following ear disease. Usually a trephine opening is made over the suspected area; the dura incised, and a brain canula or ventricular needle inserted into the cortex of the suspected area. In cases of cerebellar abscess, where there is greatly increased intracranial pressure from blockage of the cerebro-spinal fluid circulation, it is often advisable to do a modified suboccipital decompression before evacuating the abscess. This, in many cases, will prevent sudden involvement of the medullary centers due to a sudden shift intracranial pressure.

DISCUSSION

Shelton Watkins, Louisville: I have enjoyed very much Doctor Spurling's fine paper and wish to express my appreciation of his kindness in presenting it to our society.

Abscess of the brain is a very rare complication of infections in the throat, nose and nasal sinuses. Sinus thrombosis and meningitis are more frequent intracranial complications of infections in these areas than is brain abscess. The latter condition occurs more frequently as a complication of infection of the frontal sinuses than of any of the other nasal sinuses. When this occurs it is usually associated with chronic infections. The pathway of infection is usually through the posterior wall and it may be due to either direct extension through the bone or by way of thrombosis of the small veins.

Abscess of the brain as a complication of ear infections, while not common, is much less rare than as a complication of sinus infections. There are two favorite locations of the abscess; the tempero-sphenoidal lobe and the cerebellum. The pathway of infection in the former case is from the epitympanum through the tegmen tympani or the tegmen antri. The pathway of infection to the cerebellum is either through the sigmoid groove or by way of the labyrinth and the inner ear. According to MacEwen, infection through the sigmoid groove is much more frequent. He says that when it goes through the inner ear meningitis is much more apt to develop than abscess of the brain, although both conditions may exist at the same time. Alexander says that when cerebellar abscess is secondary to a chronic suppurative otitis media it usually spreads through the inner ear, and when the abscess is secondary to an acute mastoiditis it usually spreads through the sigmoid groove. He claims that infection through the labyrinth and inner ear is much more frequent than through the sigmoid groove. There are two modes of infection; one the metastatic through thrombosis of the small blood vessels and the other is by way of direct extension through necrosis of the bone overlying the dura. Authorities differ on the frequency of these modes of the extension of the infection from the middle ear and mastoid, but the preponderance of the evidence seems to be in favor of the latter, that is of direct extension. This is MacEwen's view. When this occurs there is first an extra-dural abscess, then pachymeningitis, and intra-dural abscess, following which adhesions in a circumscribed area form between the layers of the meninges and the brain, then ulceration of the brain and abscess of the cortical area. Later the infection extends into the white matter along the sheaths of the blood vessels.

Abscess of the brain is much more apt to be a complication of a chronic otitis media than of the acute form. The normal mucous membrane and bony walls offer much more resistence to infection than tissues, the vitality of which has been impaired by a chronic infection. This is especially true in cases with cholesteatoma. An acute infection of cholesteatoma is extremely dangerous. In young children intracranial complications are more apt to follow acute infections than in adults, due to the extension of the infection along the veins and nerve sheaths which pass through sutures that have not closed and, also, through areas where there is a dehiscence in the bone, but in children acute purulent meningitis is much more apt to develop than abscess of the brain.

The diagnosis of brain abscess is never easy except in the terminal stage and it is rarely diagnosed before then. When a brain abscess follows a typical course the period of symptoms is divided usually into three stages; the initial, the latent, and the terminal. Of course, some abscesses rupture into the subarachnoid space or a ventricle and produces meningitis before causing any definite symptoms. In the initial stage the symptoms are of a vague, general nature, such as anorexia, lassitude, fatigue, dislike for work, occasional vomiting, slight transitory fever and diffuse headache. Such symptoms are attributed, as is natural, to various causes associated with the patient's life and habits. After a few weeks the latent stage begins. The feeling of infirmity persists, sleep is disturbed, and the patient looks depressed. He is easily fatigued, both physically and mentally, and the senses are dulled. He will sometimes go to sleep while talking. At other times he will be very bright and normal but not for long. The headache is persistent and frequently severe. It is often fronto-occipital in type. This type of headache with the lack of physical and mental strength are, I think, very characteristic symptoms. Unfortunately, the typical symptoms of intracranial pressure, namely, vomiting not associated with the taking of food, slow pulse, choked disc,and headache, are with the exception of the last named, frequently absent or indefinite. In some abscesses the amount of pus is no more than enough to replace the brain tissue that has been destroyed and in such cases there are very few pressure symptoms. Persistent headache and vomiting are very suggestive of intracranial involvement and in the presence of an ear suppuration point strongly to abscess of the brain.

Alexander calls attention to certain localizing symptoms which are very helpful when associated with signs of intracranial pressure and ear disease; namely, paralysis of the trochlear and abducens nerves. Paresis of the former points to abscess of the temporo-sphenoidal lobe and of the latter to abscess in the cerebellum. We are all familiar with the lingual disturbances in right handed persons when the abscess is in the left tempero-sphenoidal lobe. The terminal stage is marked by the development of serious complications, such as general purulent meningitis and symptoms due to pressure on vital centers in the medulla and pons.

The best time for operation is during the latent stage, which is after the abscess has become walled off and before the patient's condition has become critical. (Alexander says the diagnosis can often be made during this stage). The most important single step in making the diagnosis at this time is, I think, a careful and detailed history.

In cerebellar abscess secondary to a chronic otitis media the pathway of infection is through the labyrinth, and in such cases there occurs, of course, preceding it a purulent labyrinthitis. The symptoms due to the abscess may be masked by those due to the laryrinthitis. The caloric test may be very helpful in determining the development of a cerebellar abscess following a purulent labyrinthitis.

While I know very little about the treatment of the brain abscess, it seems to me that one of the greatest steps that has been made in recent years is Dandy's method of aspiration, which Doctor Spurling has mentioned. Alexander has emphasized the point that, after all, the most important thing is not to make a definite diagnosis of brain abscess, but to make a diagnosis of a lesion within the middle or posterior fossa. When the surgeon is reasonably certain of this, he should then make an exploratory operation and be prepared to do whatever is necessary according to the pathology he finds. This, of course, is what the abdominal surgeon frequently does. Also, he should remember that frequently more than one intracranial complication exists. Often there is an extradural or intradural abscess as well as the abscess in the brain. When a cerebellar abscess develops secondary to extension through the sigmoid groove usually an acute mastoiditis and sinus thrombosis precede the development of the abscess. Also, meningitis may be present and mask the brain abscess. In this connection I wish to make a short quotation from Prof. Alexander's text book. "The idea of regarding purulent meningitis as inoperable may at the present time be looked upon as absolutely exploded. It was owing to this very idea that abscess of the temporal lobe remained not operated upon in the terminal stage because of the erroneous diagnosis of suppurative diffuse meningitis. Thus the presence of a cerebral abscess, opening of which might have saved the patient's life, was only discovered after autopsy."

In 1912 Doctor Irving G. Haynes, of New York, published a paper in which he described a method of draining the cerebral spinal system in cases of generalized purulent meningitis through the cisterna magnum. According to him this has advantages over all other methods. There is no danger of herniation of the brain, as in drainage elsewhere through the skull, nor of corking the foramen magnum by the brain stem, as in laminectomy. I would appreciate Doctor Spurling's opinion of this method. Doctor Spurling has done some very interesting work along this line and I am certain we would all appreciate a few remarks in regard to it. Also, I would like Doctor Spurling's opinion of the King operation. It is my understanding that this operation is adapted only to superficial abscesses involving the cortical layers and it is not suitable for those situated deep in the white matter of the brain.

A. L. Bass, Louisville: Some time ago I reported three cases in which intracranial complications occurred in chronic middle ear disease. All three patients had extradural abscess. I would like to know the proportion of brain as well as extradural abscess complicating chronic otitis media if Dr. Spurling can tell us. I wish he would also say something about what can be accomplished by puncturing and draining brain abscess followed by irrigations with metaphen, one to twenty hundred sotution.

R. Glen Spurling, Louisville, (in closing): Dr. Watkins has asked that I say something about the surgical treatment of pyogenic meningitis. I believe most of the gentlemen present are familiar with my views on this subject, and I shall not go into detailed repetition of them. Suffice it to say that in every case of staphylococcic meningitis secondary to accessory nasal sinus disease or otitic disease, the patient should have the benefit of continuous cerebro-spinal drainage, providing that the original focus can be satisfactorily eradicated. When treating inflammatory lesions of the brain and meninges, the same general principles apply as in the treatment of inflammation elsewhere. When an inflammatory process involves the central nervous system diffused drainage can only be accomplished through the cerebro-spinal fluid pathways. If the patient is given a high fluid intake after continuous drainage has been instituted, large quantities of cerebro-spinal fluid are lost through the fistulous tract, and the effect is one of continuous lavage of the central nervous system. This conception is not a new one and has been practiced sporadically since 1912. The treatment is not ideal, but so far as I know offers by far the best results of any thus far advocated.

As to the diagnosis of brain abscess by ventriculogram, I think this method is not only rarely necessary but is positively dangerous. In cases of suspected brain abscess, I think it is far safer to do multiple trephines with needle exploration.

As to Dr. Bass' question concerning the relative frequency of extradural and intradural abscesses: I have no data on this subject. In several cases coming under my observation, both varieties of abscesses were encountered. In every case of brain abscess of otitic origin, I insist that the ear have proper surgical treatment after the intracranial complication is treated. To leave a chronically discharging ear after draining a brain abscess seems to me to be bad practice, and I always insist that the ear be cared for as above stated. Again referring to Dr. Bass' question regarding irrigation with metaphen: I have now a patient in the hospital with brain abscess which I am treating daily with gentle lavage of the abscess cavity with metaphen one to twenty-five hundred. The patient is at present doing well. From recent reports I think metaphen is one of our best mercurial antiseptics.

I have been very much interested in Dr. Eggelston's method of handling brain abscess cases. Dr. Eggelston, as we all know, is one of the greatest living authorities on the treatment of abscess of the brain. I see no real reason, however, for leaving patients on the operating table for hours after the operation is completed. My patients are brought directly to the operating table in their own beds. After the operation, they are again carefully tranferred to their beds from the operating table. In cases of cerebellar exploration, the patients are placed in the same position in their beds that they assume on the operating table.

Examination of the visual fields is one of the most important diagnostic procedures in the examination of the nervous system. It often gives us important data which are indispensible in arriving at a localization. Not only is this examination of importance preoperatively, but in many cases it offers the most exact guide to the progress of intracranial lesions after surgical treatment. In brain abscess cases, however, field examination is in most instances difficult and unreliable because as a rule the patient has lost his ability to co-operate, and as you know co-operation is the secret of accurate visual field studies. I recall one case, however, an occipital lobe abscess, which might have been diagnosed antemortem had we paid more attention to our visual field studies.

HEMORRHAGE FROM UPPER RESPIRATORY TRACT*

G. Bedford Brown, Jr., M. D.
Lexington.

Before a discussion of the causes of hemorrhage from the throat, it seems important to first give some of the methods the laryngologist uses in eliminating the greatest of all of the reasons that we expectorate blood, i. e.—tuberculosis.

Hemorrhage from the throat itself is rare, and as a matter of fact is mostly secondary to some serious local affection. Otherwise, the blood with rare exceptions come from the lungs. To say that blood from the lungs must be "coughed up" or be frothy from admixture of mucus, or be accompanied by physical signs in the chest, is a misconception. Lung diagnosticians emphasize that in the early stages of tuberculosis, there is no catarrh or mucus to become mixed with blood and no cough, so that pure blood from the lungs may cause no symptoms until it is simply "hawked" or "cleared out" of the pharynx.

Blood of tubercular origin often appears to simply "well up" in the mouth. The patient may awaken in the night and find his mouth filling with blood, or with one easy cough, is able to "spit out" a teaspoon or a teacup of bright blood, almost pure or with a little mucus and not necessarily frothy or mixed with sputum.

It is difficult to distinguish between pulmonary blood and that from the buccal or pharyngeal mucus surfaces. De Reynier, a Swiss laryngologist, with much experience gained from this subject at Leysin, makes the following suggestions: If we carefully inspect the expectorated blood, it is generally bright red at first, becoming purple or dark brown in the course of the following hours or days. But the blood stained material from the pharynx, according to De Reynier, is only expectorated in the morning hours and may appear every morning for weeks or months. He is of the opinion that a good test is to throw the sputum into water. If the blood comes from the pharynx, larynx or gums, it it at once dissolved on shaking in the water. If the blood comes from the lungs, it remains in one mass and insoluble. I believe chest men will bear me out when I say that they have had bad cases of profuse bloody expectoration and yet find no sign of its origin in the lung.

Osler says that hemoptysis occurs in from 60 to 80% of all cases of pulmonary tuberculosis and is more frequent in males than in females.

Franz Stricker, of the German Army, during a period of five years, admitted 900 patients to hospitals on account of hemorrhage. 480 of these were without recognizable cause, 417 or 86% were certainly tuberculous. He states that in cases following special exercises, such as military drill, 74.4% are tuberculous.

Osler says that the microscopic examinations of sputum is most important. If carefully spread, there may be noted even in an apparently pure hemorrhagic mass, little portions of mucus from which bacilli or elastic tissue may be obtained.

It might be well to mention just here a number of other diseases of the lung that may cause hemorrhage. This from the Medical Press. Latham, Arthur and Hall mention emphysema, influenzal bronchitis, dilated bronchi, infection of the lung, by streptococcus or bacillus coli, syphilis of lung, localized pneumothorax, leakage from aneurism, bronchial fluke, mitral disease, atheroma and high blood pressure.

Excluding the afore mentioned causes, probably the greatest cause of blood in the throat, is epistaxis. The common location or site is a slow ulcer on anterior septal wall about 1 cm. from the muco-cutaneous junction. In these cases the blood flows backward and in mild cases is usually expectorated in the morning. The reason for a predilection for this site is the thin mucus membrane at this point, the formation of dry scales or scabs due to drying of secretions by inspired air (combined with a thinning of the mucous gland), the course of a branch of the septal artery, and the inclination and predisposition of the individual to remove these by mechanical means, i. e., handkerchief, digital, or abuse of douche or spray. Ulceration and atrophy of the mucous lining over the turbinates, posterior septum and floor of nose is not uncommon.

Probably the next greatest cause of bleeding is due to adenoid tissue. Adenoids, rich in lymphoid tissue, abundantly supplied with vessels, with very thin mucous coverings, their pendant position, their location and the tugging or swaying due to the passage of inspirated and expirated air currents, make them a common cause of post-nasal oozing. You will realize this more fully when you make a digital examination by palpation. No matter how carefully you try, you seldom fail to cause a tinge of blood to make its appearance in the secretions of the mouth or throat.

Enlarged veins in the pharynx and around the base of the tongue, especially in gout, cirrhosis of the liver, and influenza are causes. Quoting Osler on hemorrhage of pharynx: Hemorrhage is found in association with bleeding from other mucous surfaces, or it is due to local causes and granulations, varicosities or vegetations. Sometimes the patient finds the pillow stained in the morning with bloody secretions. Occasionally a hemorrhage takes place into the mucous producing a pharyngeal hematoma. Conditions of the uvula appear which resemble infarction. Rare conditions of this kind are usually complicated with acute rheumatic fever or purpura rheumatica. In the latter condition, a slough may occur as in severe infections of hemolytic streptococcus. Gout, according to Seman and Williams, is comparatively speaking the most fertile source of pharyngeal hemorrhage.

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*Read before the Eye, Ear Nose and Throat Section, Kentucky State Medical Association, Louisville, June 4-5 1930.

Other causes are suppuration and ulceration in connection with malignant disease, syphilis pertonsillar abscess, tuberculosis and rarely lupus. Vincents angina or ulcerations following invasion of the Klebs-Loeffler bacillus are not infrequent causes of bleeding.

Spongy gums are troublesome, especially those caused from gingivitis, (due to Vincent's or hemolytic stertococcus,) eruption of teeth, (the third molar), are frequent offenders. Malingerers often produce bloody sputum by suction on rolled or loosened gum margins.

Hemorrhagic purpura is an occasional offender. During the past year a patient came into my office bleeding profusely from the mouth, a woman, aged 33, married, five children. She was spitting both fresh and clotted blood and had been bleeding for three days. No history of a preceding attack. The lips, buccal and gingival surfaces, the hard and soft palate, pharynx and faucial pillars showed clots varying in size from a pin head to 2 cm. These appeared to be hanging to the mucous membrane, but in reality were sub-mucous or between the mucous layers. She was indeed a pitiful sight, but responded to treatment in spite of the fact that she refused hospital attention.

Various other blood conditions are often associated with mucous membrane hemorrhage, such as scurvy, pernicious anemia, leukemia, hemophilia, mercurial stomatitis, phosphorus poisoning, cirrhosis of the liver or kidneys and certain acute fevers, especially enteric and yellow fever, hemorrhagic smallpox and influenza.

Vicarious menstruation is more common than generally supposed. I have had a number of patients who have epistaxis regularly at the menstrual periods. This factor may enlighten us in explaining why an anesthetic application to certain nasal points may relieve dysmenorrhea.

Trauma from accidental injury, the passage of instruments, rupture of vein by vomiting or surgical operations are all common and frequent causes of blood-stained sputum.

Multiple telangiectasis of mucous membrane or angioma is given by St. Clair Thomson as a cause, but I have seen only a single case and do not consider it of great importance.

In acute laryngitis due to extreme congestion, it is possible, during great strain or coughing, to have rupture of a small capillary, of the arytenoids in particular. Submucous hemorrhage here often leads the laryngologist to mistake blood clots for angioma, carcinoma, or a soft fibroma.

Hemorrhage may occur from such conditions of the trachea as varicose veins, congestion from pressure of enlarged thyroid gland or an aneurism, especially an eroding type.

As in pulmonary tuberculosis, a slight clearing of the throat is often all that precedes the patient's discovery of blood in his mouth. If there is any quantity present, the expectoration is accompanied by the peculiarly sickening and depressing taste and smell of blood.

Sir St. Clair Thomson treats these cases as of pulmonary origin if no case of a leaky vessel is visible, particularly if any suspicious indications are present, such as fatigue, anorexia, loss of weight, evening rise of temperature, anemia, neurasthenia or a history of pleurisy. He even goes so far as to demonstrate blood oozing from a bronchus by direct examination if he finds it necessary to do so.

It is rare for blood in any quantity to come from the throat except in outspoken local lesions, and I believe in these cases the patients should receive the benefit of the doubt, (if neither the laryngologist nor the internist can find the source), and be treated as tubercular suspects until proven otherwise.

DISCUSSION

A. L. Bass, Louisville: I am sure all of us have seen cases similar to those mentioned by Dr. Brown in his paper. In some instances it is difficult to determine the source of the hemorrhage. It has been my experience that in the majority of cases where patients spit up blood in large amounts it is due to tuberculosis. I may mention a case in which I performed tonsillectomy on a young man who had been having fever for some time, following acute tonsillitis. The tonsillitis had subsided. I referred him back to his family doctor and told him his tonsillitis had subsided, but he still had fever and if there was not anything wrong in his chest I would remove his tonsils. He told me there was not anything in his chest, to go ahead and remove his tonsils. I removed his tonsils under local anesthesia; he got along nicely when ten days afterward I was called to see the patient because of hemorrhage, the tonsil fossa was filled with a blood clot, but there was no trouble in the fossa. I gave him some morphine to keep him quiet and after a day or two told him to come to the office. In three days he appeared at the office and said he had worked the previous day, but at five o'clock in the afternoon had again spit up blood. Roentgen-ray examination showed the chest very much involved; it was an advanced case of tuberculosis.

I have seen a case in which hemorrhage occurred from blood vessel of adenoids. The gums growing over wisdom teeth are sometimes the source of blood in the mouth. Patients often say they spit up blood and examination will show it came from the mouth.

I have seen quite a bit of blood coughed up or expectorated in acute laryngitis where there was marked congestion.

Shelton Watkins, Louisville: I have been interested in this subject for a long time as I have seen not a few patients with the history of expectoration of blood, most of whom have been referred by general physicians for examination of the nose and throat. If after a careful examination of the ears, nose and throat, I am unable to find any evidence of a bleeding point, I conclude that the hemorrhage has come from the lungs or the gastro-intestinal tract. Sooner or later this nearly always proves to be true, especially of the lungs. One of the most difficult diseases to diagnose is pulmonary tuberculosis in the incipient stage. Another cause of hemorrhage is varices in the esophagus, although quite rare.

I agree with Doctor Dabney's statement that when the hemorrhage is as much as a teaspoonful it is not apt to be from the nose or throat. (Of course, the so-called cases of "nose-bleed" are excepted. In them the origin of the blood is very evident.) A bleeding point in the nose or throat that would cause that much loss of blood is most apt to be discovered very quickly. With our modern methods of examination of the nose and throat, which are, of course, much more thorough than can be made of the lungs and gastro-intestinal tract, there is very little chance of overlooking a real bleeding area.

Samuel G. Dabney, Louisville: It seems to me that Dr. Brown might well change the title of his paper to "Hemorrhage from the Upper Air Passages." He has discussed hemorrhages that occur from the nose, nasopharynx, pharynx and larynx. It is uncommon for hemorrhage originating in the lower anterior part of septum (the usual situation) to gravitate backward into the nasopharynx and be coughed up. In the majority of cases hemorrhage from the nose finds exit anteriorly and is not coughed up. The essayist has directed attention to the majority of lesions in the upper air passages which may produce hemorrhage; but possibly hemorrhage in these affections may induce other symptoms at the same time, that immediately draw attention to the throat which would be manifest on examination. There are generally other symptoms besides the spitting of blood.

I was interested in Dr. Bass' remark about bleeding from the larynx. I believe that is very unusual. I would have to make the most minute examination before reaching such a conclusion. It is very uncommon, even in acute laryngitis, for hemorrhage to occur. A few drops of blood may occasionally appear on coughing.

It is always important to know how much blood the patient coughs up. If only a few drops it means nothing. If the patient coughs up as much as half a teaspoonful of blood, it very rarely comes from the larynx, and I am always suspicious about such cases. I do not believe half a teaspoonful of blood is often spit up from the larynx except in tuberculosis or ulceration of the larynx.

I think it is very well, in this connection, to call attention to bleeding from the gums and occasionally from the back part of the tongue, its so-called lingual varix. In many cases hemorrhage supposed to originate in the throat, will be found to come from the gums.

Chas. K. Beck, Louisville: After the remark made by Dr. Dabney, that in his many years of experience he has never encountered a case in which there was hemorrhage from adenoids, I wish to mention one case that I saw a few years ago. The patient was a woman, aged thirty years. There were numerous hemorrhages and considerable blood was lost. I could actually see that the blood was coming from the adenoids. I removed the adenoids and tonsils and the patient had no further bleeding.

G. Bedford Brown, Jr., Lexington, (in closing): In deference to Dr. Dabney I will change the title of my paper to read: "Hemorrhage from the Upper Respiratory Tract." I am obliged to him for the suggestion. In preparing the paper I used the term "bleeding" instead of "hemorrhage." Bleeding from the throat is often slight and its exact origin uncertain. Sometimes the patient merely calls attention to blood stains on his handkerchief. This blood, of course comes from the nose.

My paper was intended to deal principally with hemorrhage from the upper air passages not caused by tuberculosis. In the event no cause can be found, the patient is referred to the internist to be certain that there is no involvement of the chest.

THE PSYCHONEUROSES*

CURRAN POPE, M. D.

Louisville.

In our conception of the psychoneuroses the old descriptive method has given place to newer concepts with broader and deeper understanding and view point.

Our changed viewpoint comes from a better understanding of the mental processes of the individual, especially an appreciation of the unconscious, in which are stored, not alone all the past experiences of the individual which are really never forgotten, but the memories of the race—Paleopsychology—symptoms of which crop out constantly in the neuroses and psychoneuroses showing a distinct phylogenesis or inheritance of the race.

Thus a child comes into the world bearing in its body and brain not only all the inheritances of its immediate forebears, their past generations but the inheritance of the race from the glacial and cave man period to the present. It thus has many possibilities in life, which be it good or bad, is best measured by its adaptation and adjustment to its surroundings.

Formerly we dealt with patients at the physiological level. We can no longer do so. Reflex activities the tendon reflex for instance, the sensori-motor and physico-chemical level, are limited to their particular level. Today we deal with the individual as a whole; his or her desires, feelings, regrets, wishes or what not. In an individual that has failed in making an adjustment to his surroundings, whether this be due to visceral disease, to vascular disease or bad blood vessels, to infections, to trauma, to syphilis, to alcohol. to drugs, to organic brain disease, to arteriosclerosis, to senility etc., we must in the modern conception deal with the individual as a whole and this individual as a whole must be considered as a social unit, a member of our complex civilization.

Instinct must not be forgotten; a propensity that urges an animal or human being, without the exercise of reason, to the performance of actions which are for the most part normally useful or beneficial.

It occupies a middle position between the purely organic and physiological or better expressed the somatic (bodily) processes and the psychological or mental level; thus the mentality has a representative, of the somatic cravings and tendencies.

The baby in utero has no conscious desires. It does nothing for itself. It rests quietly free from all outside irritations, its functions largely performed by its mother. With its first faint cry, it protests, at being disturbed and forced to an existance in this Vale of Tears, no matter how beautiful and wonderful it may be. The child must begin to do for itself, to breathe, to move, to digest But all around it is the household, all the members of which, are immediately ready to wait upon its desires, its needs, with heart strings tense. Every desire is satisfied—there is omnipotence. Growth takes place. External impressions are collected, muscular adjustments made, so that with each passing day and with each contact, the world becomes to the child increasingly complex. Now things must be done for itself. No longer every wish is gratified, it cannot always eat or sleep at once when it so wishes and hence desires, wants, needs, arise because they are not to be had.

Even now the child is not denied long. Every where the infant touches reality, desires become more and more numerous and each point may be a point of frustrated or delayed desire. Now he cannot always at once evacuate the bladder or bowel, nor have the sweetmeat he desires, for social repressions, in the shape of the prohibitions of the mother step in to prevent. During our entire life time from birth to grave, there is an ever increasing discrepancy between desire, wishes and attainment. Later in life he must have worked and earned if he wishes to eat. If he does not work and steals, social usages and necessities, established for the benefit of the communal group, punishes him and locks him in jail, removing another of his wishes i. e. for freedom. The visceral functions of bladder and bowel must await time and place and be regulated by social requirements and some of his wishes and desires are postponed for years, sometimes never attained. Thus it will be seen that all during life we have to deal with a never ceasing conflict, in which the individual is, in his mind trying to mold and possess the external world. Physically, physiologically and psychically, life might be defined as one never ceasing conflict. No one can successfully live in a community without renouncing many of his personal wishes, desires and selfish wants, if he is to obtain the communal approbation. Hence it is necessary to sublimate, transferring or deviating certain aims and objects to other aims and objects, usually of a better or higher nature. He is constantly ambivalent between two tendencies, life and death, good and bad, left and right, up and down, black and white, reality and unreality, etc. Clear, clean cut thinking, normal thinking, a conscious effort of thought is dominated by reality, by the real world in which we live and come in contact with. There is another world however in which one can live and think, and that is the world of phantasy. Here the real world is left and the mind is peopled with images and pictures. In this world of phantasy, the hard, cold, cruel facts of life are left behind and the individual is governed by the pleasure-pain motive. Here in this world, night dreams and day dreams, fulfill all our wishes, allowing the real world to slip away and satisfying ourselves with desires accomplished but which are incapable of fulfillment in the real world.

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*Read before the Daviess County Medical Society.

Thus repression enters constantly into our life. Desires are put down or controlled, wishes are sublimated and reality must be maintained. No longer a cry gets food. One must repress hunger, must work, must secure money, to buy food and thus satisfy the bodily need of food. Everything seems to take a round about course and becomes greatly involved and therefore repression is constantly at work and constantly removing certain materials from our lives and hiding it away. And where does this material go? Into the unconscious.

The unconscious thus represents a great storage house, a garret containing infantile wishes, desires, experiences; many of our phantasies and practically all of the repressed material of our life time, as well as all those psychic inheritances from the bygone ages. This material having been severely repressed, being unacceptable to the world of reality, being unadaptable to living conditions, only comes out of the unconscious in certain ways, as in dreams of night and of day; by mistakes of speech and pen, by psychoanalysis, hypnotism, in hypnoidal states and even then may appear to the world of reality as a bizarre, grotesque, strange and non-understandable condition or fact, not readily understood by observer, physician or the patient.

Much is spoken about sex in the psychoneuroses. The term libido has a much wider connotation than sex. It should probably be considered as equivalent to energy. Modern neurologists and psychologists accept the term as at all times possessing the idea of an actual or tinged idea of sex, if by sex we accept in the broad sense the word erotic.

Eros was not the God of sex, he was the God of Love, love in the broadest sense; accepting it as loves of all kinds, really gives a much wider view of eroticism than mere sex. And why should not sex come out of the unconscious to worry and hamper the neurotic and the psychoneurotic? Of all the fact of the world of reality nothing stands out so vividly as sex. We sexualize our speech unconsciously. A vessel is "she." Why? A vessel is for a long time the home of men, and women, the female sex, is invariably associated with the home. When a vessel ceases to be a home it becomes a "Man-of-War," fighting and death being alien to women, who are creative. For many, many centuries there was a conspiracy to hide sex, to sink it to a low level, instead of lifting the creative power to the highest and purest level, hence erotic ideas, save those that were symbolized or sublimated, were sternly and severely repressed in the growing child and the child was taught to avoid all such erotic manifestations and thoughts. In a word sex, eroticism and all its kith and kin were taboo. In other words erotic manifestations were socialized and controlled, not alone by the family and the community but in many instances by law. The child and the growing adolescent, was taught to repress sex and to sublimate many of his erotic tendencies, that is to say his cultural advance was made dependent upon the projection of his erotic tendencies upon ends that yield less or no immediate actual satisfaction, but are turned, by a social evolution into channels that are non-erotic in character.

Lucky indeed is and was the individual that was able to so effectually sublimate his libido as to escape nervousness, unhappiness, failure, mal-adjustment to work and home, neurasthenia vera, the anxiety neurosis, the actual neuroses, the psychoneuroses and the psychoses. Thus it can be seen that from the very mildest manifestation of what is called "nervousness" to the severe forms of mental diseases is but one of graduation from the least to the greatest. The Great War upset some of the repression; wore off a good deal of the varnish and oriented the youth with blatant reality, while healthy clothes for women, short skirts, bobbed hair, and the painted face left little undiscovered. They have not proved so harmful as one might believe. We might pause and ask if the return to long hair; the modified corset or support; the long skirt and less cosmetics will again start the repressions that will result in many additions to the neuroses and psychoneuroses. It is to be hoped not, for they are as legion yet.

We all tend to distort and symbolize and symbolism, that is substituting a sign, for an underlying inacceptable idea becomes a very common form of psychoneurosis. This conversion is frequently illustrated by the patient who developes the necessity for a particular dietary, which can only be provided in the home and every effort to go out results in a gastro-intestinal upset, because of the inability to obtain the diet. By this symbolic mechanism the patient is therefore permitted under the guise of invalidism to remain like a little child, in the home, cared for and protected from the world of reality by the parents. I have seen this many times. I have seen death and poverty prove curative. Usually in such cases there has been an infantile fixation upon the gastro-intestinal functions.

In infancy the child turns to the immediate environment for the projection of its erotic or love instincts and these are given out to father, mother, brothers, sisters, nurses etc. A child's love is as a rule very direct and definite and possesses sex characteristics. Jealousy is strong, especially of a younger brother or sister born into the family, thus robbing the child of a certain amount of attention and love it had before the latter advent.

These loves follow opposite sex lives. It is so common an observation that it need but be mentioned, that boys love their mothers and girls their fathers more intensely than they do the parent of the same sex. Hence the value of of both sexes in a growing family. Here again the child is called upon to sublimate and repress his infantile love. First from the parents, then from the brothers and sisters and any other member of the household before complete emancipation takes place. And "all the time there is the constant play, back and forth of love and hate, the desire for independence and for dependency, the conflict between demands of self and the creative demands of the race." One moves forward, reaches higher planes only in proportion to how successfully he sublimates. It is these infantile memories in some cases that cause so much suffering and horror in the psychoneurotic and render the patient's life incompatible with normal living. Some households are wrecked on these repressions. I quote "A woman marries a man who unfortunately closely resembles her father in a number of particulars. The resemblance serves to stir into activity the unconscious love for the father and she therefore, in her feeling toward her husband, is outraged beyond all endurance, for it is as if she was married to her father. Life with her husband is quite unendurable. She is constantly flying into passions, upbraiding him etc."

Why do so many of us escape? We do until we meet with some psychic or other difficulty that turns us back, prevents the outward flow into reality, makes us ego-centric, introspective to finally fly into the realm of fantasy. Unless we have become completely emancipated we are never free from danger.

Remember that the difference between the so-called normal individual and the neurotic is simply one of desire and the neurotic only presents in heightened degree, the traits which we find in the normal.

We hear a great deal about the inferiority complex. Where it is used a hundred times it is probably understood once. This idea of inferiority was originated by Alfred Adler, of Vienna, Austria. Adler lays his ground work by postulating the existence in the neurotic of organ inferiority, that is to say, the possessing of definitely inferior organs. The fundamental psychological element in the neurosis is the feeling of inferiority. The neurosis then consists in an effort on the part of the individual to over come this feeling of inferiority and his symptoms are his ways and means and dexterities in overcoming this feeling of inferiority.

This is the means he takes to overcome his inferiority and because this becomes the primary object of the neurotic it takes him away from reality. He spends his life in trying to overcome his feeling of inferiority rather than in contact with reality.

CAUSES

What are the causes that break down the balance in the psychoneuroses and brings about the neurosis? Let us briefly enumerate the major ones.

Any bodily disease that breaks down the general resistance and is accompanied by the psychic causes hereinafter mentioned. Frequently in psychoneuroses the super-added fear and psychic disturbance are as bad if not worse than the original trouble. This is especially true of trauma, of heart disease (functional and organic), of high blood pressure, of mild tabes, gastric ulcer etc. In its turn the psychoneuroses or neuroses may increase and aggravate the organic inferiority or disease already present. Smith, of the Henry Ford Hospital, has found that one-fourth of all patients admitted to the hospital needed psychic treatment and conversely of one hundred consecutive cases of neurosis, only four were free from associated organic pathology. Peabody says that many physicians agree, that excluding cases of acute infection approximately half of their patients complained of symptoms for which no adequate organic cause could be discovered. That "emotional conflicts, infantile responses and behavior, and unsatisfied sex strivings are seen masquerading as hyperthyroidism, as cardiac disease and last but not least as pelvic disease." No physician or surgeon is ever justified in overlooking the psychic side. These patients are unhappy, need and deserve help. A thorough and complete neurological and physical examination supplemented by all clinical laboratory tests must be made.

Of all the cases in the domain of medicine the psychoneurotic requires more time, more treatment, more skilled attention than any other. Not only must the physician be willing to give time, but he must by temperament and disposition, be suited to the task. It requires long years of training and experience to treat and manage the psychoneurotic.

A full, careful and detailed history is necessary. This may require several days time. The psychoneurotic must be given time to tell the full story in his own way to the physician alone. This may mean from an hour or two to many hours. Then the physician must get a full and complete history, insisting upon the patient answering his questions fully. Nothing is more essential than the ability to tactfully question a psychoneurotic. All the facts must be obtained if a correct diagnosis is to be made. The patient usually gives a full history of the symptoms of which there can be no objection, omitting those which embar--rass. Persistent urging will gain in a short while a sufficient history in which will be revealed those emotional conflicts, never before told. It is here that the unhappy childhood factors come out, it is here we learn of feelings of shame, of inferiority, on what it is blamed, of fears, of remorse, of all the unhappy gamut that go to make up the back ground of the psychoneurotic. Some of these may be real, some false ideas, some misconstrued notions, the possibilities are legion. The treatment of the psychoneurotic is a specialty, within a specialty and should not be undertaken by those who have not had some training in psychiatry, psychology and neurology. Patience, keen intuition, sympathetic understanding are all at a premium. Build up the psychoneurotics health as much as possible. Many years ago S. Wier Mitchell proved this. It is simple to say remove all foci of infection and reconstruct health, increase strength and rebuild the patient, but this is no easy matter. Physical treatment fails, or is temporary, unless we at the same time, analyze, search and remove the mental factor. The vast majority of patients do not require an extended and profound psychoanalysis, but there are some cases that are never oriented with reality until this is done. Generally speaking a wide knowledge of modern psychology, and especially the psychology of the neuroses and psychoneuroses is needed. Many failures in internal medicine are doubtless due to the fact that the underlying psychoneurosis is not recognized. This has been startlingly shown in a young man, recently seen by me, suffering from a so-called organic cardiac condition, who failed to make any progress under ordinary corrective hygiene and medicinal measures until a most unhappy event was disclosed and proper re-education of a psychic nature adopted. With no change in treatment save the psychic he has in a few weeks been restored to health and activity, has resumed his position as a worker and is again self supportive.

Success in the treatment of the psychoneuroses depends largely upon the physician. With the confidence of the patient fully won-with a careful search for the underlying psychic factors, their recognition and their relationship to the individual under treatment we are well on the way toward success. But success can only be permanetly secured when we shall have so educated the psychoneurotic that he is able to fit in his particular notch, in his particular community. Hand in hand with this must go physical reconstruction. In the psychoneurosis itself no medicines are needed. It is a psychic state best reached by psychic means. Any physical ailment must receive its proper treatment, just as though no psychoneurosis was present. Full knowledge of the normal and proper relationships of life are always helpful. Whether the case will demand a breaking up of the environmental factors and the institution of rest, with a complete correction of the physical state depends upon the individual case and is a matter for the neurologist to determine.

No one will find the "peace that passeth understanding" in travel or in climate for they carry with them the same repressions, the same conflicts and while for a time diversion may further repress their symptoms in the end they return with the same symptoms ("The Cat came back").

Operative work unless absolutely necessary should be avoided. Fixation is increased by these measures. If they are proposed, be sure that the psychoneurotic, is well aware that the operative work is a necessity and is preparatory only to the use of treatment for the neurosis. These are the cases that are passing from physician to physician in the search for that health for which they often long. If they cannot be given the proper time and attention, do not treat them. Do not salve your conscience with the idea that it is an imaginative disease. Any individual who "imagines" in this sense is sadly in need of help. Remember that the symptoms complained of, have had a psychic origin and demand psychic treatment. When recovered their life must be reordered and rearranged according to their capacity to live it. We have had and always will have the psychoneurotic with us. The modern idea is to understand them, to know and overcome their defense reactions; to break up their abnormal reactions to emotions; to free their repressions and inhibitions; to check fantasy formations; to lift the load of fright, fear and insecurity; to teach them that illness and maladjustment is a poor method of warfare; to change their faulty modes of living, physical, physiological and psychic and lastly to govern their emotional status to the fullest.

Let us then realize that in order to benefit such patients we must attain "*Mens sana in corpore sano.*" By our sympathetic control and direction we will lessen the unstable and substitute the stable will and emotion. Nor can this be accomplished by many of the trick phrases of the day or through the multitude of pamphlets now on the market. At best it is a difficult problem for us, when we have everything in our favor, for we are dealing with a suffering human who cannot feel and act normally, for if they could, they would disdain being any physicians patient. Let us then protect them and restore them. At the start a temporary isolation in a neurological hospital with proper nursing care, supplemented by the use of physical therapy, diet, rest. medicines and any other measure necessary, may be essential.

At the same time let psychic regeneration go hand and hand with physicial reconstruction, so that they will slowly but steadily return to a state of normal living and thinking, and in this way re-enter the social fabric as an individual of communal value.

PRURITUS ANI, PATHOLOGY AND TREATMENT*

Bernard Asman, A. M., M. D.

Louisville.

To adequately discuss the subject of "pruritus" would require hours, but since the Program Committee has asked for only a ten-minute discussion, obviously it will be possible only to mention some of the more important essentials.

Let us, then, first clearly understand what is meant by "pruritus ani." It is indeed disconcerting to note the wide disagreement of writers on this subject. Some boldy state that it is not a disease but merely a symptom, while others as positively argue that it is a distinct disease with a definite etiology and pathology. Still others are non-committal as to pathology but quite insistant as regards etiology.

Hirschman, of Detroit, and Cooke, of Los Angeles, assert that it is merely a symptom of some other disease and not itself a distinct lesion; while Goodsall and Miles, of London, and our own Joseph M. Mathews, of Louisville, who won world-wide recognition as an authority in proctology, recognized it as a separate and distinct disease. Dwight H. Murray, of Syracuse, believed that all anal itching was due to an infection of the skin with the streptococcus fecalis, and claimed good results from the use of an autogenous vaccine. Lynch, of New York, found the bacillus coli and other organisms more frequently present than the streptococcus fecalis. P. Lockhart-Mummery, of London, believes that catarrhal proctitis is one of the common causes. Cooke held that intestinal flatulence, with its accompanying catarrhal inflammation, one of the most frequent causes.

Yeomans, in his recent book on Proctology, says: "Anyone who has examined carefully a large number of pruritic patients must have observed the local congestion present. Congestion in the portal circulation, due to obstruction favors local congestion, as does pressure which interferes with the return flow in the hemorrhoidal veins. As etiologic factors, then, there are diseases of the liver and gall-bladder, rectal carcinoma and stricture, displacement and tumors of the uterus, the straining associated with cystitis, hypertrophied prostate, seminal vesiculitis and urethral stricture."

This, it would seem, is but another illustration of the importance of a careful and complete examination not only of the anal orifice and rectum, but of the entire region as well.

Of course the term should not be used simply to signify an "itching" due to temporary irritation; nor even an itching more or less constant due to, and essentially a symptom of, some definite rectal disease, such as hemorrhoids or fistula. If this latter were the case then hemorrhoidectomy or fistulectomy would constitute a cure for a variety of pruritus, whereas the itching in such cases is only incidental to and in reality only one of the symptoms of the hemorrhoids or fistula. Clearly, then, pruritus ani, while having perhaps as its chief subjective symptom intense and painful itching, means much more than just the itching and, needless to say, the successful treatment of this most obstinate and distressing condition depends upon the proper recognition of the pathology present. The term, in my opinion, should be reserved for those cases only in which definite changes have taken place in the skin of the part affected, all other itching in the region being regarded as a symptom of disease, immediate or remote, rectal or otherwise. The advantage of this differentiation and classification becomes apparent when the question of proper surgical treatment is being considered.

According to this conception of the disease, we believe that pruritus ani may be defined as a diseased condition of the perianal and adjacent skin in which the terminal sensory nerve endings are compressed by an inflammatory exudate, the latter producing much thickening of the skin, the density of which becoming progressively greater as the duration of the disease increases, the itching being primarily due to the compression of the sensory nerve endings, the thickening and induration of the skin ensuing gradually and having its inception from an irritating discharge coming practically always from within the anal canal.

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*Read before the Jefferson County Medical Society, June 2, 1930.

This acrid discharge, probably small in quantity at first, yet enough to keep the anal orifice unduly moist, containing, of course, colon bacilli and other organisms, soon produces an irritation and congestion of the perianal skin, which, unless relieved in its beginning, becomes progressively more and more severe finally resulting in an acute inflammation of the skin affected.

The source of this irritating discharge is of vital importance and must be determined, because it constitutes the etiology. In the vast majority of cases it is found to be a perianal infection, usually in the form of a perianal fistula, sometimes just under the mucous membrane but frequently involving the entire thickness of the rectal wall. This fistula, as is true of practically all fistulae, is the result of an abscess. Somewhat confusing, perhaps, may be the fact that the patient may deny all knowledge of having had an abscess. This is readily explained, however, when we remember that mucous membrane is soft and yielding and that, the pus not being under great pressure, such an abscess causes but little pain.

In examining a patient suffering from perianal pruritus, the greatest care must be observed in inspecting and palpating the anal canal. While the itching rarely extends much above the muco-cutaneous junction, it is under the mucous membrane lining the anal canal, and extending under the adjacent skin, that the cause of the trouble, in approximately 90% of all cases of anal pruritus, is found. The opening, usually just inside the anal verge and in the posterior median line, as a rule, is small and oftentimes completely sealed, which accounts for the fact that it is often overlooked. Once found, however, a small blunt-pointed probe bent at right angles or hook-shaped, is easily inserted into the tract or cavity. The cure of the pruritus depends upon the complete eradication of this fistula and its branches, which not infrequently involve or penetrate the anal sphincter, together with appropriate treatment of the diseased skin.

The fistula, with its branches, is excised, the sphincter repaired if necessary. The wound is carefully closed, apposing mucous membrane and skin edges loosely with interrupted catgut sutures, providing drainage at two or more points between sutures.

The cause of the pruritus having been thus removed, the diseased perianal skin itself remains to be dealt with. Frequently the skin is found markedly redundant, being thrown into folds with deep creases radiating from the anus, excoriated, bleeding and actively inflamed. When this is the case, restoration to the normal is most speedily accomplished by making an incision entirely through the skin and completely surrounding the anus one inch or more external to the orifice; a similar incision is then made one-half inch or more external to the first, and the intervening strip of skin removed. The skin edges on both sides of the wound are then slightly undercut and loosely apposed with No. 2 chromic catgut sutures. In those cases wherein the perianal skin is comparatively smooth with but little if any redundancy, no skin is removed. One incision is made completely surrounding the anal orifice, the edges slightly undercut and sutured. The purpose of this incision, going entirely through the skin, is, of course, to sever all nerve twigs thus rendering the area temporarily anesthetic, placing the part at rest, thus getting rid of the inflammation and conducing to rapid healing.

An anal spool, selected to fit the individual, is then inserted to prevent infection of both wounds from fecal or other intestinal contamination. Gauze is placed under the outer flange of the spool and covering the wound, held in place by overlapping strips of adhesive plaster. A pad covering the open end of the spool is held in place by a perineal bandage.

We do not share the pessimistic views expressed by most surgeons regarding the unsatisfactory results obtained in the treatment of anal pruritus. On the contrary, when dealt with in the manner just described, our results have been quite satisfactory.

Duration of Stay of Transfused Fluids in Circulating Blood.—Kallius is of the opinion that neither the erythrocyte count nor the hemoglobin determination is of value in estimating the result of an intravenous transfusion. Only a measurement of the blood plasma is of value. He employs a modification of the congo red method of Griesbach. He relates the results of his experiments on rabbits. Salt solutions and acacia solutions do not remain in the circulation very long, even when injected slowly; on the other hand, pure blood serum and citrated blood serum do not leave the blood vessels even when injected quickly. But it must be borne in mind that the serum is of importance in making a blood transfusion.

RECTAL DISEASES AND ABNORMALITIES IN CHILDREN*

James W. Bruce, M. D.,
Louisville.

Rectal diseases are not as common in childhood as in adult life. However, when they do occur, they are sometimes rather obstinate in responding to treatment.

Prolapse of the rectum is rather common in the first three or four years of life. It is usually caused by straining at stool and therefore is associated with anything that causes tenesmus or straining. Diarrhea, and especially dysentery, with its associated proctitis may be an etiological factor. Constipation and the determined efforts of parents to train their children to defecate at a certain time of day may cause it. The child of this age usually is placed upon a wide-mouthed chamber that gives no support to the perianal structures. Also these structures, including the rectal ligaments, are more flexible than they are later in life. The result is that hard and repeated straining causes prolapse. Vesical calculus and urethral obstruction may cause difficult or painful urination and rectal prolapse.

The symptoms of the condition consist of the appearance at the anus of a soft dark red mass which is composed of the everted rectal sheath covered with mucous membrane. The length of the prolapsed mass may be a fraction of an inch when only the anal structures are involved or several inches. There is usually marked straining and tenesmus.

Treatment consists of reducing the prolapse and keeping it reduced. The former is easier than the latter. To reduce the mass, place the child on its abdomen with the trunk at a 45° angle, control crying and struggling as best you can, gently and firmly press the mass toward its point of exit. It is important not to traumatize the tissues by too great pressure. An anesthetic may be necessary in obstinate cases or where the child fights and will not relax. Usually the mass is reduced without great difficulty.

Keeping the prolapse reduced is a more difficult job. Above all things, straining at stool must be avoided by appropriate treatment of the condition which caused the straining. In mild cases correction of the etiological factor together with the use of a toilet seat with an opening just large enough to permit the passage of feces will be sufficient. In more severe cases it is necessary to apply a three-inch adhesive strap across the buttocks just above the anus to hold the buttocks together firmly. Also the child must not be allowed to sit erect when defecating but lie on its side or back. Local cleanliness is best accomplished by cutting the adhesive after defecation, thorough cleansing, and reapplication of new adhesive over the old. This treatment is tedious and disagreeable to mother and child and has to be continued for weeks or months until the perianal tissues have regained normal tone. In obstinate cases deep injections of alcohol along the course of the rectal sheath have resulted in the formation of adhesions which have been helpful in preventing recurrence of prolapse. Operation for the relief of prolapse is frequently unsuccessful and should not be recommended until other measures have been tried.

The prophylaxis of prolapse is best accomplished by instructing mothers not to allow their children to strain at stool and to use toilet seats with small openings which give the perianal tissues proper support.

Fissure of the anus is rather common in the first few years of life. It is usually caused by the passage of large, hard stools. Ammoniacal fermentation of urine so frequently seen during the cold months, is a predisposing cause. The strong alkaline urine mascerates the mucous membrane of the anus so that fissure is easily produced. Syphilitic ulceration may be an etiological factor.

The symptoms of fissure of the anus are pain on defecation and sometimes the passage of a few drops of blood with the stool. The pain may be very severe. This is probably the reason why so many children dread to defecate and postpone it just as long as possible. This refusal to attempt defecation results in a most obstinate form of constipation.

The treatment of fissure of the anus consists of keeping these stools soft by means of mineral oil and oil enemas and local applications to the fissure. Silver nitrate in solution or the lunar caustic are the best applications. In obstinate cases it may be necessary to give a general anesthetic and manually dilate the rectum and cauterize the fissure.

Ischiorectal abscess in infancy is of interest chiefly as a cause of obscure fever. I once had a baby under observation for a week with a high fluctuating temperature of unknown origin. A large ischiorectal abscess then appeared which was drained with immediate and complete relief to the patient.

Foreign bodies may be swallowed and pass through the gastro-intestinal tract and finally become lodged in the rectum. This is a rare occurence. More frequently objects are inserted into the rectum. A case has been reported of a boy who inserted the tip of a garden hose into his anus and told his playmates to turn the water on. Rupture of the intestine, general peritonitis and death resulted. Colonic irrigation will usually remove foreign bodies from the rectum, but sometimes it is necessary to give a general anesthetic and dilate the rectum.

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*Read before the Jefferson County Medical Society.

Rectal polyp is occasionally seen. It is usually an adenoma the size of a pea or larger and attached to the rectal wall by pedicle. The only symptom of polyp is usually hemorrhage which may be quite profuse. Sometimes there is tenesmus with a polyp if it gets down into the anus. Diagnosis is made by inspection. Treatment consists of surgical removal.

Imperforate anus is a condition sometimes found in the newborn. The treatment is immediate operation the success of which depends largely upon how near the end of the ectal canal comes to the natural orifice. Congenital narrowing of the anal opening is not uncommon. Every case of obstinate constipation should have a digital examination of the rectum.

THE RECTUM IN OBSTETRICS*

Edward Speidel, M. D., F. A. C. S.,
Louisville.

This important organ demands the attention of the obstetrican in pregnancy, labor and the puerperium.

Throughout the period of gestation it is important to secure daily evacuations. Enemas should not be used as they increase the tendency to hemorrhoids that are prone to show themselves in the latter months of pregnancy when the large, distended uterus by its pressure upon the pelvic veins naturally produces congestion about the rectum. Laxatives of the petrolatum variety are best suited to prevent such an occurrence.

In the excessive vomiting of pregnancy, with the stomach intolerant to medication, the rectum furnishes a convenient avenue for the administration of the sedatives bromides and chloral, so essential to the successful treatment of this condition. By some it is even used for the administration of glucose solutions as long as tolerance is maintained, although the intravenous route is undoubtedly the better.

Large colonic flushings of four and five gallons of bicarbonate of sodium solution were formerly an important feature in the treatment of eclampsia. It was found, however, that they disturbed the patient too much and even incited convulsions, and so now a large, warm soap suds enema is the extent of the rectal treatment of this toxemia.

In labor rectal examinations are advocated to avoid the possibility of introducing infection, as may be so readily done by repeated vaginal examinations even with the utmost care. However, it must be conceded, that rectal diagnosis except in the very experienced is not as accurate as vaginal, and the rubbing of the recto-vaginal septum against the presenting part can produce enough attrition to implant colon bacilli with a subsequent puerperal infection. The Lying In Hospital of New York, in consequencee, prefers the vaginal to the rectal route. In our experience vaginal examinations under strict precautions are practiced as infrequently as possible and rectal examinations are used to determine the progress in descent in prospective Caesarian sections when there is a cephalo-pelvic disproportion.

In the efforts to mitigate discomforts of labor the rectum is used in the well known Gwathmey synergistic analgesia for the introduction of the oil ether mixture, after the preliminary injection of morphine and magnesium sulphate. Two and one-half ounces of olive oil with ten grams of quinine and one and a half ounces of ether form the mixture. It should be remembered that this rectal instillation can also be used in the successful control of eclamptic convulsions as we experienced in several severe cases in the City Hospital a few years ago, with the quinine if the patient is in labor and without it if it is a case of postpartum eclampsia.

In the second stage of labor, the rectum gives definite indication of the advance of the presenting part. As the head descends to the perineum, pressure upon the sacral nerves relaxes the rectum, the sphincter ani relaxes and any fecal matter in the rectum escapes involuntarily. It is on this account that a soap suds enema should always be given at the onset of labor, in order to minimize as far as possible the contamination of the field with fecal matter at this stage of labor. This is even more essential when there is a diarrhea, because then the evacuations are pathological.

Protection of the rectum from laceration is an important feature at the end of the second stage of labor especially in primipara. Where a laceration seems inevitable, a median episiotomy with the incision curving to the side, or with silk worm gut sutures placed and tied just above the sphincter, may save that important structure from laceration when an overly large head passes through the outlet.

Perineal tears involving the sphincter and part of recto-vaginal septum are the most dreaded occurrences in obstetrics. In the repair over-stretching of the remains of the sphincter muscles is the first essential followed by careful closure of the recto-vaginal septum from the vaginal side and direct approximation of the torn ends of the sphincter with chromic catgut sutures. In the after treatment, a restricted diet with the administration of one ounce of liquid petrolatum at bed time for five nights before giving a castor oil purgative will generally result in primary union of the torn sphincter and a good functional result.

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*Read before the Jefferson County Medical Society, June 2, 1930.

Recto-vaginal fistula, due to the former custom of allowing the head to remain in the pelvis in one spot for hours and producing a local necrosis, have been practically eliminated since the proper early relief of such a situation by the judicious application of forceps.

In the puerperium the close proximity of the rectum to the relaxed vagina is a constant menace, as improper care of discharges may readily initiate a colon bacillus infection of the pelvic passages.

Accordingly this obstetrical summary would almost cause one to agree with the leading essayists in this symposium, that the rectum is the most important organ in the body.

NEWS ITEMS

Dr. Charles William Kavanaugh, 72 years old, county health officer of Anderson County and former Mayor of Lawrenceburg, died at 10:55 A. M., August 24th, at his home following a stroke of paralysis.

Dr. Kavanaugh had been in ill health since last January when he was stricken with paralysis. He never fully recovered from the first attack and during the past two months suffered two slight strokes.

A native of Anderson County, Dr. Kavanaugh received his early education in the public schools of Lawrenceburg. He was graduated from the Louisville School of Medicine in 1885.

Dr. Joseph C. Ray wishes to announce his association with the Dorsey Urological Clinic, Dorsey Clinic Building, Second and Chestnut Streets, Luisville. Hours: 8-1 and 3-6. Phones: Office—City 1186; Residence: High—1167, Main 1973-J.

BOOK REVIEWS

THE PRE-SCHOOL CHILD AND HIS POSTURE—Written by Frank Howard Richardson, M. D. and Winifred Johnson Hearn, B. S. Price $2.50.

Here is a book written in the simple everyday language which everyone can understand; describing in detail, numerous ways of interesting children in the improvement of their posture through organized play and individual games as well as a discussion of the serious physical defects of pre-school children that result from improper carriage. Publishers—.G. P. Putman's Sons, New York.

WOMAN'S AUXILIARY

OUR GUESTS

The Woman's Auxiliary to the Southern Medical Association will be our guests during their Annual Meeting, accompanying the parent organization, the Southern Medical Association, held in Louisville, November 11-14, 1930. This is an honor for Kentucky and an opportunity for all members of the Auxiliary to enjoy the privilege of meeting members from other States. The sixteen Southern States and the District of Columbia will all be represented by delightfully charming women whom it is a pleasure to know. Have you and your husband made your hotel reservations and planned your arrangements to spend these four days in Louisville? If not, a glance through the tentative program, which follows, will show you that every day is filled with interesting plans for the entertainment of all Auxiliary members. The members of the medical profession have their own program, a part of which we are invited to share, such as the President's Reception and Ball; also the General Session, the big public meeting held Wednesday evening. Do come and share in this privilege with which the Southern Medical Association is honoring Kentucky.

TENTATIVE
PROGRAM OF ENTERTAINMENT

Mrs. George A. Hendon, Chairman, Louisville.

Tuesday, November 11

11:00 A. M. Executive Board Meeting, Private Dining Room, Mezzanine Floor, Brown Hotel.

4:00-5:00 P. M. Tea at the Louisville Woman's Club.

9:00 P. M. President's Reception, Knights of Columbus Hall.

Wednesday, November 12

9:00 A. M. General Session, Roof Garden, Brown Hotel.

All ladies attending the Southern Medical Association are invited to attend.

1:00 P. M. Luncheon for all ladies attending the S. M. A. Meeting, Crystal Ball Room, Brown Hotel. (Given under the auspices of the Social Hygiene Association of Kentucky.) The speaker, Dr. Gordon Bates, General Secretary, Canadian Social Hygiene Council, Toronto, Canada, has an international reputation for clarity and conciseness. Dr. Bates' subject will be: "What Is Social Hygiene?

6:30 P. M. Dinner, followed by a Musicale, Ball Room, Pendennis Club.

Thursday, November 13

9:00 A. M. Executive Board Meeting of the 1930-1931 Executive Board, Brown Hotel. Drive to Bardstown and Old Kentucky Home.

TENTATIVE PROGRAM

Seventh Annual Meeting of the
Woman's Auxiliary to the Southern Medical Association
Louisville, Kentucky
November 11-14, 1930

Tuesday, November 11

11:00 A. M. Executive Board Meeting, Brown Hotel.

Wednesdey, November 12

9:00 A. M. General Session, Roof Garden, Brown Hotel.

All women attending Southern Medical Association Meeting are invited to attend. Mrs. James N. Brawner, presiding.

Invocation, Rev. C. W. Welch, D. D., Pastor, Fourth Avenue Presbyterian Church, Louisville.

Address of Welcome, Mrs. P. E. Blackerby, Retiring State President, Louisville.

Greetings from Woman's Auxiliary, Kentucky State Medical Association, Mrs. E. B. Houston, President, Murray.

Greetings from Woman's Auxiliary, Jefferson County Medical Association, Mrs. John F. Freeman, President, Louisville.

Response from Woman's Auxiliary, Southern Medical Association, Mrs. F. W. Upshur, Richmond, Virginia.

Report of Chairman of Entertainment Committee, Mrs. George A. Hendon, Louisville.

Report of Parliamentarian, Mrs. Irvin Abell, Louisville.

Introduction of Officers, S. M. A. Auxiliary and Guests of Honor, Mrs. C. W. Garrison, Little Rock, Arkansas.

Report of Credentials Committee, Mrs. C. W. Roberts, Atlanta, Georgia.

Report of Program Chairman, Mrs. Allen H. Bunce, Atlanta, Georgia.

Reading of Minutes, Mrs. H. W. E. Walthers, New Orleans, Louisiana.

President's Report, Mrs. James N. Brawner, Atlanta, Georgia.

Reports of other Officers:

- First Vice-President, Mrs. A. L. Walters, Miami, Florida.
- Second Vice-President, Mrs. Edward C. Mitchell, Memphis, Tennessee.
- Corresponding Secretary, Mrs. C. W. Roberts, Atlanta, Georgia.
- Treasurer, Mrs. W. W. Crawford, Hattiesburg, Mississippi.

Reports of Committees:

- Publicity, Mrs. D. A. Rhinehardt, Little Rock, Arkansas.
- Historical Collections, Mrs. A. T. McCormack, Louisville, Kentucky.
- Resolutions, Mrs. Southgate Leigh, Norfolk, Virginia.
- Special Committee, Mrs. S. A. Collum, Texarkana, Texas.

Greetings from Southern Medical Association, Dr. Hugh S. Cumming, President, Washington, D. C.

Address, Dr. E. H. Cary, Dallas, Texas.

Unfinished Business.

State Reports:
(Limited to 3 minutes each)

Report of Nominating Committee.

Election of Officers.

Installation of New President, Mrs. S. A. Collum, Texarkana, Texas.

Introduction of New Officers.

New Business.

Adjournment.

Thursday, November 13

9:00 A. M. Executive Board Meeting of 1930-1931 Executive Board, Brown Hotel. Drive to Bardstown and Old Kentucky Home.

JEFFERSON MEETS EARLY

The first regular meeting for the 1930-31 year of the Woman's Auxiliary, Jefferson County Medical Society, was held on Monday, September 1st, 1930, at the Brown Hotel, Mrs. John K. Freeman, President, presiding.

The meeting was preceded by a luncheon. Miss Thelma Ogden rendered two lovely vocal selections with Miss Florence Montz, accompanist.

Mrs. G. A. Hendon and Mrs. Hugh N. Leavell were appointed delegates with Mrs. S. W. Bates and Mrs. M. C. Baker, alternates, to the Woman's Auxiliary of the Kentucky State Medical Association, which meets at Bowling Green this month. Mrs. P. E. Blackerby, President of the State Auxiliary, gave an outline of the program.

Tentative plans for the entertainment of the Southern Medical Auxiliary, which meets in Louisville on November 11-12-13-14, were outlined by Mrs. G. A. Hendon, general chairman.

A study course under the leadership of Mrs. Wm. Edgar Fallis, is being perfected. Eight lessons, one hour each, from October to May. Subject: "History of Medicine."

Current events chairman, Mrs. S. W. Bates.

Mrs. C. G. Arnold outlined plans for the serving units, beginning also in October.

The beautiful flowers furnished by Mrs. I. T. Fugate for today's meeting were sent to the wards in our hospitals.

Mrs. D. A. Bates, Sect'y Pro. Tem.

Kentucky Medical Journal
Published Monthly By
THE KENTUCKY MEDICAL ASSOCIATION
Incorporated

Entered as second class matter October 22, 1906, at the Postoffice at Bowlingg Green, Ky., under act of Congress, March 3, 1879.

Subscription Price $5.00
Edited Under Supervision of the Council

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1931 MEETING LEXINGTON

COUNTY SOCIETY REPORTS

Franklin: The Society met Thursday, June the 5th, 1930, at 12 o'clock noon, at the Capital Hotel. Dr. John Patterson, the president, called the meeting to order. Minutes of the May meeting read and approved. Members present: Drs. Coblin Ginn, Patterson, C. T. Coleman, Stewart, Roemele, Lyon, Travis, Budd, Youmans, Jackson and Minish.

Rev. Olaf Anderson was heard on behalf of the Childrens' Playground, soliciting a donation. The Society voted an assessment of $2.00 per member to the cause. Drs. Stewart and Coleman were appointed a committee to collect the assessment.

Drs. A. W. McCandless and Dr. F. W. Wilt, were proposed for membership. Their applications were referred to the Board of Censors, which later reported favorably. A motion was made to approve the Censor's report, which was unanimously adopted.

The Society adopted the plan of the Connecticut State Department of Health for guidance of the Public Health Nurse on First Visit to a sick person where no physician has been in attendence.

Dr. Ginn was in charge of the Scientific part of the program, and introduced Dr. Charles N. Kavanaugh, of Lexington, who gave a most interesting and instructive talk with lantern slide demonstration on Tularemia, after which he answered many questions concerning the disease. Dr. Kavanaugh was one of the first men in the State, if not the first, to make a thorough study and investigation of this disease.

The Society then adjourned to the Hotel dining room for lunch.

L. T. MINISH, Secretary.

Franklin: The regular monthly session was held Thursday, August 7, 1930, at the Capital Hotel.

In the absence of the president, Dr. John Patterson, the Society was called to order by the Vice-President, Dr. A. M. Jackson. Reading of the minutes of the previous meeting were dispensed with by a unanimous vote.

Members present were: Drs. Budd, Travis, Ginn, Wilt, C. T. Coleman, Jackson and Minish.

A discussion of Clinical Cases constituted the program. Dr. Budd reported an interesting case of purpura hemorrhagica in a pregnant patient delivered at the 8th month, the baby showing hemorragic spots.

Dr. Travis reported an unusual case of Meningitis.

Dr. Minish a case of lymphatic leukemia.

All cases were discussed freely, after which the Society adjourned to the dining room for lunch.

L. T. MINISH, Secretary.

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KENTUCKY MEDICAL JOURNAL

Published Monthly by the Kentucky State Medical Association Under the Supervision of the Council

VOL. 28. No. 11 BOWLING GREEN, KY., NOVEMBER, 1930

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Editorial and Business Office, 519 Tenth Street. Subscription Price, $5.00; Single Copy, 50 cents

Entered as second-class matter, Oct. 22, 1966, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rates postage provided for in section 1103, act of October 8, 1917, authorized May 25, 1920

NEXT ANNUAL SESSION, LEXINGTON, 1931

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These scientific studies indicate that the amount of Viosterol should be increased 2½ to 3 times. Therefore, since October 1, 1930, Viosterol in Oil-100 D has become Viosterol in Oil-250 D. Cod-Liver Oil with Viosterol-5 D, has become Cod-Liver Oil with Viosterol-10 D. Viosterol preparations of lesser potency, now on the market, will no longer be available.

Advantages of Squibb Viosterol in Oil-250 D

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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. 28 No. 11 BOWLING GREEN, KY., NOVEMBER 1930

EDITORIALS

THE BOWLING GREEN MEETING

The physical conditions under which the last meeting of the Kentucky Medical Association was held were unique in the history of the association with the exception of that of two years ago, when we were the guests of the Madison County Medical Society and of Eastern Teachers College in Richmond. Some criticism of this arrangement may be justified. It is true that the accommodations are not so complete as we find in the larger hotels, and that the conveniences cannot be obtained. Privacy is of course limited. There is much to be said on the other side. The plan has found favor with a large majority of those attending the meetings, and particularly with those from the rural sections of the state. The rooms are clean, the food abundant and well prepared, and we are left alone. Distractions from the outside are wholly absent and we are not required to give space for some other organization with a previous engagement of the place. Those and only those interested in medicine are gathered together, and this leads to a spirit of comradery more marked than usual in a profession that is noted for its clannishness.

The attendance at the scientific sessions was more constant than usual and seemed to be more interested for that reason. The program was particularly well balanced. The discussions on the newer methods of treating refractory cases of tuberculosis with surgery, and the newer conceptions of this disease from the standpoint of mode and time of infection, were of great interest to all. Other valuable papers were read, giving us the refinements in certain practices and techniques in diseased conditions which are more or less standardized. A number of names appeared for the first time on the program of the annual session. These men acquitted themselves well, and we may be assured that talent will not be altogether lacking in future years.

The program committee is to be congratulated on its departure from the usual, in its inauguration of double sessions a part of the time. A better presentation and more complete discussion of a greater variety of subjects is thereby permitted. It would not be out of the way to give this futher trial with the prospect of making it a permanent feature in the future as the society grows larger. This brings us to the only valid criticism that might be offered of the program. It is impossible to present and discuss six essays in a period of three hours. The later papers are given little or no consideration or are postponed to crowd the next day's program. Each session could have for its program four papers. A symposium could be allotted the time of two papers. We could have at the same time a number of essays designated as alternate essays, which could be placed in the program whenever an essayist is absent or the time for the session is not consumed. To make certain that no hardship would be borne by the members away from home, the host society could be made responsible for the alternate essays.

Entertainment by the host, the county society, is always an enjoyable affair. As the attendance at the annual session grows, the expense to the local society mounts in proportion. It might be well to recommend less elaborate functions in the future.

W. B. ATKINSON, M. D.

THE SOUTHERN MEDICAL ASSOCIATION

The Jefferson County Medical Society will be host to the Southern Medical Association during its annual meeting in Louisville from November 11th to 14th, 1930. Every member of the Kentucky State Medical Association is cordially invited to be present during the most outstanding medical convention ever assembled in Louisville.

The Scientific Program of the Southern Medical Association is outstanding in its interest to members of the medical profession, whether engaged in general practice or in any of the specialties. This year's program is particularly noteworthy.

It is important to remember that only members in good standing of the Kentucky State Medical Association are eligible to the Southern Medical Association and we trust that there will be an unusually full representation of our membership present during the Louisville session.

A MOTORCADE TO FRANKFORT AND DANVILLE.

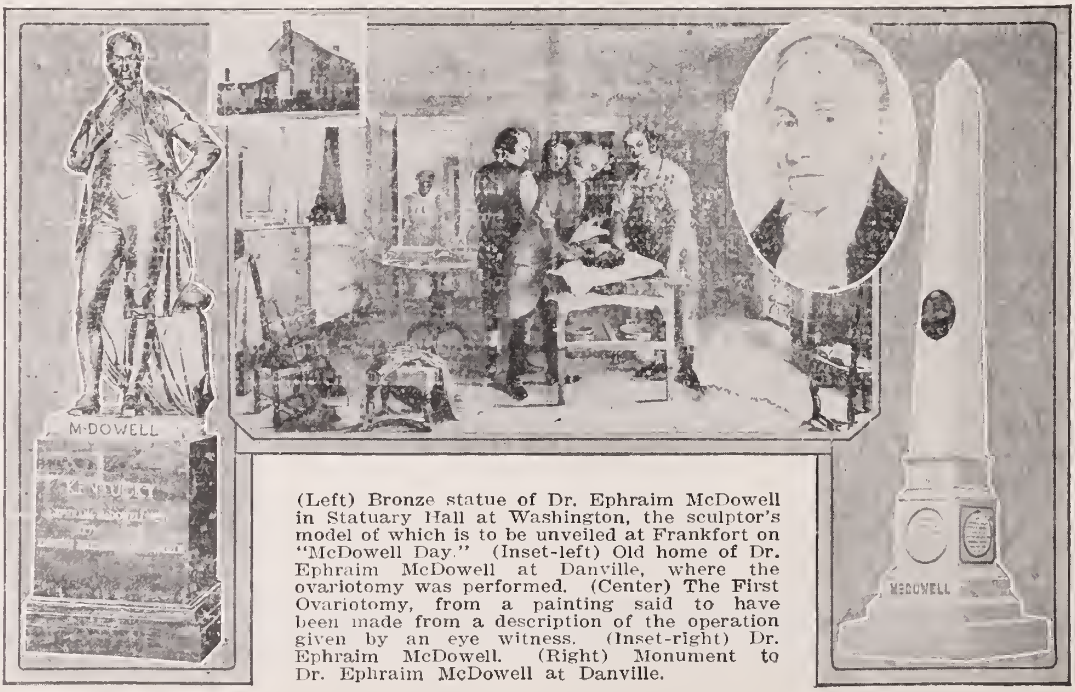
The Southern Medical Association and the Kentucky State Medical Association will form a motorcade to Frankfort and Danville and are jointly sponsoring a program to honor one whom every physician in the South should delight to honor, Dr. Ephraim McDowell, of Kentucky, the "Father of Ovariotomy." The late Dr. Lewis S. McMurtry of Louisville, formerly of Danville, in an address before the American Gynecological Society on the Centennial of McDowell's operation (1909), very aptly said in closing this address: "Pelvic and abdominal surgery began with ovariotomy; ovariotomy began with McDowell." "McDowell Day" will be Saturday, November 15, the day following the last of the scientific activities of the annual meeting of the Southern Medical Association at Louisville.

Each state of the Union may have in Statuary Hall in the Capitol building at Washington statues of two of the state's immortals, and Kentucky chose as one of her immortals that eminent physician and surgeon, Dr. Ephraim McDowell. The sculptor's model of the statue of McDowell at Washington is to be placed in the rotunda of the capitol of Kentucky at Frankfort, and on "McDowell Day" the Southern Medical Association and the Kentucky State Medical Association will, with appropriate ceremonies, unveil the statue at Frankfort.

Following the unveiling at Frankfort, those attending will proceed to Danville, the home of Dr. McDowell, where a visit will be made to the house where he lived and where in 1809 he did the first ovariotomy ever performed, the operation that immortalized him. The visitors will then proceed to his grave in the public square at Danville, where a wreath will be placed, with appropriate ceremonies, on the monument erected over his grave by the Kentucky State Medical Association and dedicated in May, 1879, during an annual meeting of the state association at Danville. Never again will physicians of the South have a better opportunity to do honor to one of their confreres to whom honor is due.

The "McDowell Day" pilgrimage, a motorcade, will start from Louisville Saturday morning at about 8:00 o'clock, proceeding without stop to Frankfort. As one reaches the outskirts of Frankfort there comes into view the state capitol and the governor's mansion, and a very striking aerial view of the city and the Kentucky river. The capitol of Kentucky is one of the most beautiful in this country, both inside and out. One of the finest pieces of sculpture in the world is the bronze statue of Abraham Lincoln in the center of the rotunda of the new state capitol. The new capitol is well worth seeing, as is the old capitol, now the home of the Kentucky Historical Society and containing much of interest. In approaching the old capitol, one passes over the spot where Kentucky's martyred governor, William Goebel, fell mortally wounded by an assassin's bullet.

Following the unveiling, the guests will have luncheon at Frankfort and the motor-



(Left) Bronze statue of Dr. Ephraim McDowell in Statuary Hall at Washington, the sculptor's model of which is to be unveiled at Frankfort on "McDowell Day." (Inset-left) Old home of Dr. Ephraim McDowell at Danville, where the ovariotomy was performed. (Center) The First Ovariotomy, from a painting said to have been made from a description of the operation given by an eye witness. (Inset-right) Dr. Ephraim McDowell. (Right) Monument to Dr. Ephraim McDowell at Danville.

cade will proceed, with a stop at the Frankfort cemetery, where Daniel Boone and other pioneers of Kentucky are buried. Another fine view of Frankfort, the state capitol and the winding Kentucky river is to be had from the cemetery. Proceeding on, the motorcade goes over hard surfaced roads through the best of the beautiful and famed bluegrass section of Kentucky, through the Boone tunnel, onto Brooklyn bridge, over the Kentucky river where the beautiful palisades of the Kentucky river will be seen. Wonderful cliffs and beautiful river scenery delight the eye at this point. The motorcade passes through Shakerstown, once the home of that orderly and industrious society called Shakers; then goes by the Dix River Dam on to Danville.

After concluding the program at Danville and seeing that beautiful little city the motorcade will proceed to Harrodsburg, where a light lunch and late afternoon tea will be served. At Harrodsburg is the Pioneer Memorial State park and here there is much of historic interest. Few places offer more of interest to the traveler than Harrodsburg. From Harrodsburg the motorcade will proceed to Louisville, arriving in the late afternoon in time for dinner and to catch the evening trains out.

Those going east over the C. & O. will be dropped at Frankfort on the return trip to get the late afternoon train there. Those who will be going south via the Southern, may remain at Danville, taking their train there.

The Southern Medical Association will provide transportation for those who have not their own cars, and is arranging for the noon-day luncheon, the afternoon tea, and all other items of expense, an all-expense trip at a nominal cost.

The unveiling ceremonies at Frankfort and the ceremony at Danville will of themselves make the trip worth while, but those who have never had the privilege will have an opportunity to see some of Kentucky's most historic parts, as well as much of its scenic beauty, making the trip doubly worth while. The "McDowell Day" motorcade will be a trip long remembered by those who are privileged to take it. Physicians and their wives attending the Louisville meeting should plan to be away one day longer to get the thrill and inspiration that will come to all who go on the "McDowell Day" motorcade.

McDOWELL DAY

On Saturday, November 15th, the Kentucky State Medical Association and the Southern Medical Association will arrange for a motorcade to Frankfort, Danville and Harrodsburg in celebration of "McDowell Day."

At Frankfort the statue of McDowell, by Charles H. Niehaus, the celebrated sculptor, will be unveiled. The principal address there will be delivered by Doctor George A. Hendon. At Danville a wreath will be placed on the monument to McDowell in the McDowell park and an address will be delivered by Doctor E. Starr Judd, President-Elect of the American Medical Association. At Harrodsburg we will have the pleasure of seeing the historic pioneer fort.

It is hoped that Kentucky physicians will arrange, as far as possible, to be present during this day to celebrate the memory of the "Father of Ovariotomy." The Southern Surgical Association, the American Surgical Association and the American College of Surgeons have been invited to participate in the program.

EXHIBIT AT THE J. B. SPEED MEMORIAL MUSEUM

Old medical books and manuscripts, prints and instruments of antiquarian interest will be shown in an exhibit at the J. B. Speed Memorial Museum, Belknap Campus, Louisville, during the convention of the Southern Medical Association at that city November 11-14.

All physicians and surgeons who own books, engravings, instruments, etc., of historic value are invited to communicate with the Speed Memorial Museum, Louisville, relative to any loans they may be willing to make.

Visiting physicians will be welcomed at the exhibit, the hours of which will be announced on the program.

THE ANNUAL TRAP SHOOTING TOURNAMENT

The Fifth Annual Trap Shooting Tournament of the Southern Medical Association will be held under the auspices of the Jefferson County Medical Association at Louisville, Ky., Wednesday, November 12, at 1:00 p. m. Cars will leave the Brown Hotel promptly at 12:30 p. m. Transportation to the Louisville Doctors Gun Club, will be provided by local physicians. Dr. James S. Lutz, 4349 Park Blvd., Louisville, is Chairman of the Trap Shooting Committee. The committee will be glad to be of service in any way it can to visiting shooters.

Rules Govering Shoot

1. With the exception of the method used in classifying shooters, A. T. A. rules will govern this shoot.

2. The Trap Shooting Committee is determined to make the 1930 shoot the best ever and set a mark hard to surpass in the future. Come and be with us. Bring your gun, if convenient, if not there will be plenty of good trap guns on the ground as free for you to use as the air you breath. We are going to start this shoot off with a bang and end it the same way. If we don't make you enjoy it we will have a doctor see if you are sick. We are going to have a lunch, too. Come and let us make you glad you came.

Fifteen beautiful and appropriate trophies have been secured and many others promised. For further information, apply to the chairman, Dr. Lutz.

SOCIAL HYGIENE LUNCHEON MEETING

The Social Hygiene Association of Kentucky is sponsoring a luncheon meeting at the Brown Hotel, on Wednesday, November 12th, in connection with the Southern Medical Convention. Dr. Gordon Bates, General Secretary of the Canadian Social Hygiene Council, Toronto, will be the guest speaker and will address the meeting on "What is Social Hygiene?"

Dr. Bates occupies a prominent position in the field of public health in both the United States and Canada, and his work in the Hygeia House, Toronto, is well known. "Social Hygiene is neither sex education, in the common definition of the phrase, or venereal disease control, but a correct interpretation of child guidance, character training and parent education in rearing children," states Dr. Bates. "I believe that character formation has much more to do with the prevention of illicit contact than instruction in the gruesome facts of sex. Neither should social hygiene stand out as a thing apart from other educational programs. It is one of the most important educational issues, and should be included in every well-rounded health and educational program for community betterment. We are getting away from the phrase social hygiene, and are applying the newer phraseology "Social Health," which is easier to understand; easier to interpret to the laymind."

This luncheon meeting will be one of the outstanding features of the Southern Medical Meeting and the association was fortunate in securing Dr. Bates as their speaker. It is Dr. Bates' first visit to Louisville, and he and the Social Hygiene Association are anxious to give the physicians and other citizens of Kentucky an opportunity to hear the real interpretation of Social Hygiene (social health) and the splendid possibility there is for advancement along this line of educational work in Kentucky.

NOTES CONCERNING THE LOUISVILLE MEETING OF THE SOUTHERN MEDICAL ASSOCIATION.

The various committees of the Jefferson County Medical Society are actively at work preparing for the coming meeting of the Southern Medical Association which will be held in Louisville November 11-14. All Kentucky physicians are cordially invited to attend. This is an opportunity that no Kentucky physician can afford to miss since in point of exhibits and attendance the Southern Medical Association is second only in size to the A. M. A.

The following members of the Jefferson County Medical Society are chairmen of the various committees listed below:

General Chairman—Dr. William H. Long.

Hotels Committee—Dr. C. W. Dowden.

Meeting Places Committee—Dr. Virgil E. Simpson.

Publicity Committee—Dr. William E. Gardner.

Membership Committee—Dr. Charles W. Hibbitt.

Golf Committee—Dr. Claude Wolfe.

Finance Committee—Dr. D. Y. Keith.

Badges Committee—Dr. Frederick G. Speidel.

Fraternity Luncheon Committee—Dr. Fred L. Koontz.

Committee for Women Physicians—Dr. Lillian South.

Clinics Committee—Dr. William A. Jenkins.

Information Committee—Dr. Oscar E. Bloch.

Trap Shooting Committee—Dr. J. S. Lutz.

Scientific Exhibit Committee—Dr. John W. Moore.

Entertainment and Reception Committee—Dr. W. B. Owen.

Transportation Committee—Dr. D. Y. Roberts.

Alumni Reunions Committee—Dr. Henry M. Rubel.

The Brown hotel has been designated as the headquarters hotel. With it and the other available hotels there will be ample room for all visitors. However, if you have not made reservations it would be advisable to make them before coming to Louisville so that you will know your exact location.

The majority of the section meetings, the scientific and commercial exhibits will all be housed in the Columbia auditorium just south of Broadway on Fourth street. Additional section meetings will be held in the churches within a few hundred feet from the main building.

Many clinics of general interest are being arranged for. These will be held in the main auditorium. In addition the pediatricians are arranging for clinics at the Children's Free Hospital.

Luncheons and dinners are being arranged for the alumni of the various medical schools and fraternities. Not only will visitors see much of scientific interest but they will undoubtedly meet many of their friends.

The united membership of the Jefferson County Medical Society extends a cordial invitation to every doctor to attend this meeting.

INFECTION

We are wondering if the general practitioner in his daily work is mindful of the frequency with which chronic infections are playing such an important part. Many of the obscure conditions frequently found, are the result of hidden foci of infection, even though we may not subcribe to the widespread removal of teeth and tonsils which are merely under suspicion.

How many of our cases of so-called rheumatism in children are the result of a more or less acute infection, the focus frequently being found with difficulty. Many cases have been treated by local applications and internal medication for a number of days, only to find that the pain at and below the knee, with redness and swelling, were due to an acute osteomyelitis of the tibia rather than rheumatism. It is not unusual to search for days to find the cause of an intermittent or remittent type of fever in a young child only to find on examining the urine that it is due to a pyelitis—or, if overlooked, a pyelonephrosis. But the logical question arises, where was the original focus of infection? And all to often, it is answered only after prolonged search, or not at all.

In many acute infections there are complications discovered in the usual observation of these cases, the heart or blood vessels, the kidneys or liver, showing the results of the invasion with the bacteria or by the toxins produced in the course of the disease. On the other hand, we find many cases of endocarditis or pericarditis frequent attacks of cholecystitis or cholangitis of varying intensity, appendicitis, the above mentioned pyelitis, or perinephitic inflammation, as well as meningitis and other conditions in which an immediate cause cannot be found. And add to this the not infrequent puerperal infections, early and late in pregnancy, in which every precaution has been observed, so far as the practitioner is concerned, and yet the source of infection is not discoverable.

With the frequency and apparent omnipresence of pathogenic bacteria is it not worth our while to bear in mind constantly the fact that many of our apparently obscure conditions are in fact due to some ordinary organism that may with a systematic search, be discovered rather easily.

DIETITIC FACTS AND FADS

In a recent number of the Journal A. M. A. (vol. 95, No. 10, p. 709.) Stone discusses in a very sane and scientific manner "Dietary Facts, Fads and Fancies." He considers the normal diet and the varying proportions of proteins, carbohydates and fats found in the American dietary. He also gives considerable attention to the vitamins and the salts found in the average meal, and discusses the relation of all these food conditions to different diseases.

He arrives at the following conclusions:

1. A rational diet for young adults of average activity should contain from 2,500 to 3,000 calories. It should be a balanced diet of protein, from 80 to 100 Gm.; carbonhydrate about 400 Gm., and fats, from 80 to 100 Gm. The carbohydrate supply should come largely from so-called protective foods, milk, cereals, vegetables and fruits.

2. The most serious criticism of the diet of English speaking people concerns the excessive use of sugar. It is safe to say that the average per capita consumption is more than double the amount necessary for health.

3. For adults of lessened activity beyond the fourth decade, a subcalory balanced diet is often advisable. An overweight person suffers a physical handicap which is reflected in an increased mortality rate for his age.

4. The vitamin constituents of foods are important considerations at all ages, but especially for children and for women during pregnancy or lactation. Increased virility of the race may ultimately depend on the extension of knowledge in this field of nutrition.

5. There is no conclusive evidence that protein constituents of the rational diet suggested by many investigators are responsible for degenerative tissue changes.

6. The acid-ash constituents have been overemphasized as etiologic factors in disease, and the term "acidosis" has become a popular fancy through the teachings of enthusiasts or food propagandists.

7. In the treatment of nephritis, restriction of protein beyond the point necessary to maintain normal blood nitrogen is often neither necessary nor advantageous. Patients with vascular disease, with or without hypertension, frequently show associated disturbances of kidney function, often incorrectly called nephritis. They have frequently been advised to restrict their food protein to the minimum. Such advice is not justified by the facts. Approximately 1 Gm. of protein per kilogram of body weight is necessary for nitrogen equilibrium.

OFFICIAL ANNOUNCEMENTS

MINUTES OF THE EIGHTIETH ANNUAL SESSION OF THE KENTUCKY STATE MEDICAL ASSOCIATION, HELD AT BOWLING GREEN, SEPTEMBER 15-18. 1930.

HOUSE OF DELEGATES

FIRST SESSION, SEPTEMBER 15.

The First Session of the House of Delegates of the Kentucky State Medical Association at its Eightieth Annual Meeting, held at the Western Kentucky Teachers College, Bowling Green, September 15-18, 1930, was called to order at two P. M. by Arthur T. McCormack, the Secretary.

SECRETARY McCORMACK: The House of Delegates will come to order. Dr. Frank has just brought me the unwelcome news that Dr. Hanes was taken violently ill yesterday afternoon and will be unable to be here today. In his absence it becomes my duty to call this meeting to order and to ask for nominations for President Pro Tem. The Vice-Presidents are also absent.

W. E. Gardner, of Louisville, was nominated and unanimously elected.

PRESIDENT GARDNER: Gentlemen, I am sorry Dr. Hanes cannot be here to start off this meeting, but as we have a definite outline of procedure, we will follow it.

First is the report of the Committee on Credentials, by W. C. Simmons, of Smiths Grove.

SECRETARY McCORMACK: Mr. Chairman, in the absence of Dr. Simmons, my office has prepared a list of the accredited delegates. Their credentials are on file for reference of the Committee when they arrive. Pending that, I move that the roster as compiled be accepted, and where there are delegates who have no credentials, their credentials be submitted to the Committee to report to the House later.

The Secretary called the roll.

SECRETARY McCORMACK: Mr. Chairman, a quorum is present.

LOUIS FRANK, Louisville: I notice that some of these counties have very few members and yet have a number of delegates, particularly Cumberland County, which has three delegates and shows a membership of only eight.

PRESIDENT GARDNER: The next order of business is the reading of the minutes of the 1929 meeting.

A motion was regularly made, seconded and carried that the reading of the minutes be dispensed with, inasmuch as they were published in THE JOURNAL of February, 1930.

PRESIDENT GARDNER: Next is the report of the Committee on Scientific Work, of which Dr. W. B. McClure, of Lexington, is Chairman. Dr. McClure has not arrived.

LOUIS FRANK, Louisville: Does that refer to the program?

SECRETARY McCORMACK: Yes.

LOUIS FRANK: I move the program be accepted as printed.

The motion was seconded and carried.

PRESIDENT GARDNER: Report of the Committee on Arrangements, Dr. B. S. Rutherford, Bowling Green, Chairman.

LOUIS FRANK: I move the report of the Committee be deferred until the General Session tomorrow morning, when it also appears on the program.

PRESIDENT GARDNER: If there is no objection, without putting the motion, we will defer that until tomorrow morning.

The President's report will be deferred until Dr. Hanes arrives.

THE REPORT OF THE COUNCIL

R. C. McCHORD, Lebanon: The Council desires to have further time on its report.

LOUIS FRANK: I move it be granted.

The motion was seconded and carried.

PRESIDENT GARDNER: The Treasurer's report.

SECRETARY McCORMACK: The Treasurer's report will be found in the Annual Number of the JOURNAL, and I suggest it be referred to the Auditing Committee as printed.

PRESIDENT GARDNER: Without objection this will be referred to the Auditing Committee.

REPORT OF THE SECRETARY

SECRETARY McCORMACK: The report of the Secretary is very simple. I merely desire to report the roll as reported by the various county societies. We have about the same membership that we have had for the last several years, in spite of the economic depression at the present. There has been more interest in the county societies in the last year, and I think the Association will especially desire to commend the very wise activity of the President in having visited almost every section of the state and many of the county and district societies in the state during his term of office as President-Elect and President. Dr. Hanes has been extremely active and has done a great deal of good in stimulating interest in the work of the county societies. I think more of them are holding regular meetings than ever before.

President Gardner: I am sure the Secretary will add to his report from time to time as we go long.

D. M. Griffith, Owensboro: I move that the Secretary's report be received and filed.

The motion was seconded and carried.

President Gardner: Reports of the Councilors by districts.

Report of Councilor, First District

V. A. Stilley, Benton: The medical profession in the First District, to my mind, is more nearly united at present than at any time since I have had the honor of being Councilor. Almost all the societies have regular meetings, well attended, and we have a District Society that is second to none in the country, we think.

There are about 175 members. We meet twice a year in meetings that are always of interest to the entire profession.

We think the Woman's Auxiliary has done some splendid work in the First District. Practically all the counties have a well-working, well functioning Woman's Auxiliary. We have the honor of having Mrs. Houston, the President-Elect, who is doing very effective work.

As a whole, the profession in our District is in good shape.

President Gardner: These reports are referred to the Committee on Reports of Officers, so it is not necessary to take any further action at this time on them.

We will next hear from the Councilor of the Second District.

Report of Councilor, Second District

D. M. Griffith, Owensboro: We have not quite the usual number of members in the aggregate that we have had heretofore, but with the exception of my own county, things are in excellent condition. We are in good condition to accept the criticism which is always heaped upon us.

One thing in my District that we have been able to bring about has been the visiting of doctors to other county meetings, and that has proved rather beneficial.

I think on the whole I can report that things are in very good condition.

Report of Councilor, Third District

C. C. Howard, Glasgow: I want to thank this Association for meeting here. This is our District. We appreciate your coming. This is geographically in the center of our District.

Our District, I think, is improving and the personnel of the profession I think is better than it was five or six years ago. The facilities of the doctors practicing medicine are better, the roads are better and the hospital facilities are greatly improved.

We have had a loss of six members in this District during the last year, but that is not so bad, because we don't need so many; with better roads doctors can care for more patients. I don't hear so many territories crying for a doctor as I used to. I think that is ironed out.

Almost every county in this District has a county society. We have a Third District Society meeting here three times a year. I think this District is in very good shape.

Report of Councilor, Fourth District

D. E. McClure, Elizabethtown: From my observation the profession in the Fourth District is in splendid working order. Co-operation among the individual doctors I believe is better year by year and is getting a good deal better all the time.

There is more or less activity of the Auxiliary there, and with that activity I feel there is going to be a better understanding among the doctors themselves; in fact, I feel one of the chief works of the Auxiliary is toward a better understanding by the doctors themselves of each other, and better co-operation.

During the year have had two meetings, one in Elizabethtown and one in Bardstown. The meeting at Bardstown last week was an outstanding meeting. There was an excellent attendance, and there were two of the best papers I have heard at any meeting. The thing that appealed to me at that meeting and that others mentioned, was the fact that so many of the doctors had their wives and their children there. It was a meeting that was not so professional, yet it may lead to things that are more professional. They had an opportunity to teach doctors' wives how doctors ought to co-operate, and the children had a chance to see how the medical profession is performing now, and no doubt in the minds of some of them there was laid a foundation for emulation that will lead to better things.

Report of Councilor, Fifth District

W. E. Gardner, Louisville: Just at this point I will report on the Fifth District. Being Councilor of the Fifth District, I have Jefferson County and eight other counties outside.

I think the Fifth District has gone along fairly well during the past year. Of course, our major society is in Louisville, in which there is always active and intensive interest in the scientific work of the profession. We have had excellent programs and very good attendance, not as large, of course, as we might have. On the whole it has been quite satisfactory. Dr. Horine, the President, has stimulated quite a good deal of interest, and has agitated the matter of the Jefferson County Society purchasing its own home and building for the library. This matter has not been finally determined, but there has been a good deal of interest in the matter, and we hope perhaps later on during the year to work out the proposition finally.

So far as the interest in other counties in the District is concerned, Franklin County and Shelby County both have very active societies and meet regularly once a month. They usually have dinner meetings and scientific discussion following the dinner.

Henry County has an occasional meeting. Carroll County has an occasional meeting. On account of the inability to hold very regular meetings in Carroll and Owen and Gallatin Counties, it has been the policy of the Council in this District to have a tri-county meeting once a year, which we think has been fairly successful, and we have had some very interesting and enjoyable times together. Usually we invite some physician from Louisville, perhaps more, who read papers which go along with the case reports of some of the local physicians.

We find that we have two or three counties, Gallatin, Trimble and Owen, in which the number of doctors is so small that it is almost impossible to stimulate interest in having county meetings with any great regularity. I have urged these men, however, at least to get together three or four times a year, at least quarterly; if there are only two or three men in the county they can meet together at lunch and have a little informal discussion about the affairs of the profession in the county, with informal case reports and things of that sort. In some instances they seem to be carrying this out in a very satisfactory way.

We all know how difficult it is to try to hold county meetings with any regularity in counties in which there are only two or three physicians.

We have had some loss of membership in the District as a whole, though it is not very great. It is reported in the JOURNAL a slight loss in Jefferson County. Perhaps most of the loss has been from the death of members or from removal to other districts.

I feel on the whole the Fifth District has been going along in a fairly satisfactory way.

I am sure all the Councilors feel grateful to the men in their Districts who have given prompt response to any call that has been made upon them by the Councilors so far as any legislative procedures are concerned in Frankfort.

During the session of the legislature,, the President of the Association has occasion to call on the Councilors of the various districts, to call on the presidents and secretaries of the various county societies, urging them to get in touch with their representative or senator, and frequently asking them to go to Frankfort to talk to the members of the legislature.

It has been very gratifying to me, and I am sure it has been to the other Councilors of the state, to see the willingness and prompt response they give to such requests of this sort, showing the intense interest of the profession as a whole and the good spirit of cooperation and the realization of the fact that it is necessary for us at all times to maintain our organic existence if we are to move forward and to prosper in a scientific way and not have our profession torn down by politicians.

If this whole structure should at any time be upset or torn down, we would then begin to realize very sorely just how much our organization has meant to us in the past. This organization, of course, is always primarily for the benefit of the patient and the public generally; it is not a selfish organization for the promotion of the welfare of any one or more physicians, but is to maintain itself in a way that will be of greatest value to the population as a whole.

REPORT OF COUNCILOR, SIXTH DISTRICT

R. C. McCHORD, Lebanon: Mr. Chairman, my District is so well organized that it doesn't require a great deal of attention. I think every eligible physician in my District is a member of his county society. Under the leadership of Dr. Atkinson, Jr., of Campbellsville, we organized a society there composed of three counties, Taylor, Green, and Adair. This has been so successful that it has extended itself over my Councilor District, practically, and every three or four months, I think, they have a meeting at Campbellsville, which is a central point. They are entertained in a school building very much similar to this, have a fine supper at a medium price, to which all of the doctors in the Councilor District are invited, and have a good meeting.

In addition, in my own county, Marion County, we attempt to have a meeting every second month, to which all of the doctors in my Councilor District, and some others, are invited.

I think that is a very nice arrangement.

We have a large attendance, good discussions, and it makes it very profitable to all of us.

I think my District has come up equal to last year, except there has been no report made from Adair County. I don't know what is the matter there. I telephoned last night, but I couldn't get hold of the secretary. As a general thing they are very efficient down there and they give a full report at their annual meeting, but for some reason or another I am unable to say why that report has not been made. There has been no report made from there at all. On account of my inability to get hold of the Secretary last night, I don't know what is the matter. As a general thing they don't have many meetings, but they come up every year, generally, with their full quota.

The other counties are well organized and are doing fairly good work.

Report of Councilor, Seventh District

Virgil Kinnaird, Lancaster: I haven't much to report from the Seventh District. It is very difficult to get them to have county medical societies. We can't get them to meet. I have been to nearly every county in the district, some of them this year, some of them last year. We have only a few doctors in each county, with the exception of Pulaski County, where there are a good many doctors, but there is a faction there, and if one half attend the other half won't come.

We have lost two doctors in Lincoln County, one through an automobile accident, the other by death.

Report of Councilor, Ninth District

S. C. Smith, Ashland: The condition in our District is a very excellent condition considering the geographical and other arrangements of the Councilor District.

There are only a few counties that are holding regular meetings. Most of the others are holding sporadic meetings. I don't think Pike and Floyd, Johnson and Magoffin are holding regular meetings. That is the information I have received from them. I went up to Lawrence and reorganized that society, and they have been holding regular meetings ever since and seem to be having a very good time. I think the profession is interested and they will continue to be interested.

I suggested to some of the members of the Carter County Society that we have a reorganization meeting out there and see if we couldn't stimulate enough interest to have regular meetings, but for some reasons which I think it would be unwise to state at this time, they advised postponement of that.

Boyd has regular meetings, with the exception of three months during the hot days of the summer.

Greenup has given up all efforts to hold a society of its own, and practically all the eligible members of Greenup County have joined the Boyd County Society.

Mason and Lewis are holding only an occasional meeting.

Due to the fact that I was away for about nine weeks during this year, I have not visited as many of them as I would have visited otherwise. I spent so much time away that I didn't feel I could afford time to visit the others.

Altogether the District is in excellent condition, considering the financial, geographical and such conditions, and the distribution of the physicians throughout the counties.

Report of Councilor, Eleventh District

W. H. Martin, Harlan: We have had a very successful year in the Eleventh District, with considerable activity in most of the counties, and also one special society.

In the early summer we had a heart clinic at Williamsburg, with Dr. O. P. Nuchols, Pineville; Dr. E. F. Horine, Louisville, in charge, and in the afternoon we had a very interesting jake-leg clinic.

I would say that our District is in good shape. When the Eleventh District holds its clinic, the State Medical Association takes an interest in it, and the Kentucky State Medical Association has honored our District with the only life medical state officer, that is our Sergeant at Arms, Dr. Owsley. He is the only man who has ever been elected to any office in the medical society with a life membership. (Applause).

Secretary McCormack: I should like to make just a little comment, particularly in regard to Dr. McClure's report. I have been much impressed during the year with the increased interest in and success of those county societies that have had the organization of the Auxiliary. I wish very much that all the members could have been present at the meetings in Perry and Letcher and Pike Counties that I have had the privilege of attending. Every single doctor in the county present. The wives of all those that were married were there. They had separate meetings, and then they met together for dinner. I think Dr. Atkinson's success in the work down there has been due to the fact that he centers around a corking good meal. I have had the privilege of being at two of them. If that batting average is kept up all the time, I don't blame those men for attending.

In Western Kentucky the same thing is occurring in Dr. Stilley's District. All the counties have Auxiliaries organized and functioning.

The Auxiliary is performing a very distinct function for the profession that it is difficult for those of you who have not come in contact with an active Auxiliary to realize. As we have gone on, with the complexity of medicine increasing, with the intensive development of the specialties, the strain on the individual physician from the long hours of actual work he has to do has been very great, and it has taken away from public life, to a considerable extent, that fine leadership that formerly gave the profession a great deal of its standing.

We have come to learn (the American Medical Association first realized it, of course) the necessity for interpretation of our aims and activities and objectives to the public. When these women, intelligent and alert, have learned the thing, they are able to interpret it in a way that it is impossible for us to do ourselves.

I think it is rather unfortunate that the radio station over which the Auxiliary program goes, does not reach out into the state as much as we would like it to. It will shortly. That is WLAP in Louisville. It is interesting that they have had some forty programs over WLAP. A physician has delivered each of the addresses. He has been introduced by a member of the Auxiliary. He has told in some considerable detail, in plain English, hardly ever using words of more than two syllables, just what is being accomplished in some particular line. He has taken up some particular incident in medical history and has made clear what that means to the public, and in all of these addresses urging visits to their physicians when they need to go.

The women have emphasized this in their introductory remarks.

From the contacts I have had with the public, I have learned how frequently this has effectively operated.

From the State Board of Health the same sort of program is being conducted on WHAS It has been extremely interesting to us to see what responses have come from those programs.

You would be interested in knowing that the Auxiliary also has been sending out a regular press service to the newspapers of the state, published regularly every week in more than 150 weekly newspapers of the state. The articles are carefully prepared by a committee of the Auxiliary of the American Medical Association. They are not signed: they are entirely impersonal. They have been productive of a tremendous amount of interest. They are published unabridged by most of the newspapers, and they are accomplishing excellent results.

I believe it is important for the counties that do not have active Auxiliaries, to study the matter and confer with their confreres in the counties where the Auxiliary is active, because I think most of the unfortunate rivalry that frequently takes place can be removed entirely; I think the attendance on the meetings can be increased; I think their interest and value can be greatly stimulated by having our wives interested in our work in an organized way so they understand what we are driving at and what we are doing.

I think the meetings of the Auxiliary in Louisville, in Jefferson County, have accomplished a tremendous amount of good. It is awfully interesting to have seen their studies and researches into the history of medicine in Kentucky and to understand what they have accomplished among themselves. I know that every member of the Jefferson County Medical Society whose wife attends those Auxiliary meetings has himself become familiar with facts in medical history that he hadn't thought of much or had forgotten, and they are being constantly accumulated.

It would be interesting for you to see the mass of material that Mrs. Boggess, the Historian of the Auxiliary, has already accumulated toward the publication of a volume on the History of Medicine in Kentucky; the museum that has been accumulated of obsolete instruments, of old publications, many of them unique in their character. We have secured a copy of the first book that was published in the English language on the Diagnosis, Treatment and Prevention of Consumption, by Dr. McDowell, of Cynthiana, one of the most interesting things you ever saw. Every scientific fact in it was wrong, and yet from those wrong premises, every conclusion is as correct as anything we are doing today, the dietary, the regime, the sunshine, the fresh air, the rest—all the things we are doing today are proven to be right by erroneous methods. But he got just the same place we are getting now, by those methods.

A lot of things are being accomplished in that way. They have succeeded also in getting together quite a number of copies of the old proceedings that had been entirely lost. They have gotten files of the newspapers in towns where many of the old meetings were held, that were entirely lost. These things are going to be of enormous value to us in the history of the profession in the future.

President Gardner: These remarks of Dr. McCormack's are interesting preceding a report of the Committee on the Woman's Auxiliary, which we will have from Mrs. P. E. Blackerby, the President of the Woman's Auxiliary, at the meeting tonight. We will now have the reports of the delegates by counties.

CARTER COUNTY

SMITHFIELD KEFFER, Grayson: I want to say to Dr. Smith that Carter County is not in as bad condition as he thinks it is. I want to brag a little bit. There are only thirteen doctors and eleven of them belong to the county society this year and have paid their dues. There were only five last year, so we have had an increase of 120 per cent. Not another county in the state can do that.

S. C. SMITH, Ashland: How many meetings have you had this year?

SMITHFIELD KEFFER: We meet every month.

S. C. SMITH: I was misinformed by one of your own members.

SMITHFIELD KEFFER: I can't say about the May and June meetings: I was out of the state, but we had an extra good meeting last week.

Do we have a chance to air our troubles here?. We have some. Our trouble comes over something it ought not to come up about, and I think maybe the doctor has heard of that. It is about our county public health. Senator Rose is not a member of the county society because of health matters. If that could be rectified I think we would be one of Dr. Smith's prize counties next year, and I think he would be proud of us, too.

He just practices medicine. They have sent him up to the jail to see prisoners, and have sent him too to the poorhouse to see poor people. He has had two obstetric cases and various things that we don't think the president of the county health unit should have anything to do with.

SECRETARY MCCORMACK: He has resigned, so I think that will be corrected.

SMITHFIELD KEFFER: I hope you will send us some fellow who can say no and mean no. We are proud of the tuberculosis man you sent up there. He did some good work, and we appreciate it. If you have more of the same caliber, we would like to see them, but if you send a fellow to take our bread and butter away from us, we would rather you wouldn't send him. That is all there is to it in a few words.

The next time we have a meeting and have something to eat, Doctor, I am going to see that you have an invitation to come over.

DAVIESS COUNTY

P. D. GILLIM, Owensboro: I didn't get to see our secretary before starting up here. I was busy and he was busy. He promised to give me some data that I might tell you about. I don't know what Dr. Griffith told you about Daviess County in his Councilor's report, but Daviess County has been unfortunate in losing some outstanding men through death in the last year, but we are still carrying on in a very wonderful way. Our profession is free of jealousies. I don't know that I ever saw a body of men more harmonious than those in Daviess County. They usually agree on almost all matters, and we meet regularly. Our programs are prepared by a program committee at the beginning of each fall when we start in. We have about two months' vacation in which we do not meet. Then we have these programs gotten up and printed.

We don't ask the physician whether he is going to write this, that and the other. This program committee takes upon itself to give each one of these members his subject, and we have two papers at each meeting.

At about four of our meetings yearly we try to get some outside talent, so to speak, and we have gotten men from Chicago, Cincinnati, St. Louis, Louisville and Philadelphia. It is surprising how these busy men in the large centers are willing to come to our smaller places and give us these papers. We rarely have any trouble getting outstanding men for these meetings.

Our society is in accord on everything. They were so in accord on a few grievances that they formulated a number of points on which they were unanimously agreed, and it was unanimously voted for me to bring their ideas before the members of this Association. I will read this to you.

"The Daviess County Medical Society has instructed its delegates to bring before the House of Delegates the following objections and desires which they have unanimously voted to sustain.

1. We are opposed to public health employees practicing medicine or surgery for people able to pay for service.

2. We are opposed to the establishment of more medical colleges in Kentucky.

3. We are opposed to any activity which would tend to lower medical standards in our state.

4. We are opposed to the State Board of Health permitting and sponsoring the practice of medicine by cults and under-graduates.

5. We are opposed to all cults being permitted to practice their ideas in this state with lower preliminary educational requirements than are required of matriculants of medical colleges.

6. We desire the legislative committee of the Kentucky Medical Association to consult the will of the medical profession on all proposed legislation of major importance to our profession."

You can see from the tenor of what I have read that there has been either misinformation spread among our members or our members have grievances, because this was unanimously passed by our society.

D. M. Griffith, Owensboro: Before you get away from Daviess County, I would like to present to this Association one of the men whose age makes him a guest of the Association, W. S. Gilmore. (Applause).

President Gardner: We are delighted to have you here Dr. Gilmore.

Thank you very much, Dr. Gillim. We are glad to have this frank, free discussion presenting the expression from your society.

Louis Frank: I move that the points in this report of the delegate from the Daviess County Society be referred to the Committee on Legislation and Public Policy, and that that Committee be asked to report to this House of Delegates before its adjournment.

The motion was seconded and carried.

Fayette County

John W. Scott, Lexington: The county society has had a very prosperous year. It has had scientific meetings every month, with a larger number of papers by men who are usually not writing papers than has been the case heretofore.

The society has practiced the policy for very many years of doing its own scientific work. It has felt that papers by its own members, even though they fall far short of the addresses that we might get from men of distinction who are outside the county, either far or near, are more desirable for us as the work of our own members. It seems to me personally that that is the thing that the county society should take very much to heart, that its own work is much more valuable to its members than is the work of men even of a higher order who are outside the county. That at least has been the policy of the Fayettee County Society, and we have succeeded this year in getting a good many more men than has been the case heretofore, who have not written papers, to appear on the program.

President Gardner: I want to endorse what you have said, because I believe one of the objects of a medical society is the development of its own members, and the best way to develop them is to make them write papers.

Garrard County

J. E. Edwards, Lancaster: We have only five or six doctors in Garrard County. I believe they have all paid their dues for the year. We don't have regular meetings of the county society on account of the size of the society. Once a year we have a meeting of Garrard, Lincoln and Mercer Counties. That meeting is held at one of the county seats. We had a very good meeting at Harrodsburg. We always have out-of-town talent at that meeting. We have had some very fine meetings. Dr. Stites and Dr. Frank and some of the other men have been there. We are glad to have any of the other doctors from the state who will come to our Harrodsburg meeting in July.

We will be glad to have you come to all of our meetings, and we will show you a good time. We also had the President-Elect of the State Medical Association with us at our last meeting. We had a good meeting at Lancaster.

Hardin County

R. T. Layman, Elizabethtown: Mr. Chairman, I am glad to say that through the efforts of our Councilor and the secretary of the county, Dr. McClure, we have a 100 per cent enrollment in Hardin County. I think there are tweny-two physicians in that county. We meet regularly every month. Everything is getting along well.

Henderson County

R. E. Smith, Henderson: The Henderson County Medical Society has not held as many regular meetings as it might have held. Those that have been held have been well attended. We have had men from Chicago and from other points come there and give us very good papers.

One thing I think we can say for Henderson County, that the general co-operation of the physicians in Henderson County is a great deal better than it has been in the past. Many of the hatchets have been buried that have been with us so long, and some of them have decided that the best thing to do is to lay aside some of their hammers.

I think the greatest trouble, not only in Henderson County but in our adjoining counties and some of the other counties in our state, is that there are petty jealousies which are destroying the great purpose of our meetings and of our societies. These factions have to a large extent disappeared, or practically entirely, in Henderson County, and I feel that the coming year will give us still a better co-operation.

The membership has increased by three.

Jefferson County

W. A .Jenkins, Louisville: Mr. President, the Jefferson County Medical Society has been making good progress. We have such a large membership that it is impossible to get all of our members to attend. We always, however, have representative meetings, with good papers and clinics. Two or three times during the year we invite some outstanding man from a great center, to present an address before us.

Outside of purely Jefferson County medical affairs, our activities have been to assist the State Board of Health and the local health unit in a campaign for hygiene and preventive medicine.

An activity that has just been taken up by us and was hinted at by the Councilor, is the establishment of a home or academy of medicine, feeling that a metropolis the size of Louisville, should have, just as Philadelphia and Cincinnati and New York and St. Louis should have, an academy of medicine. We hope to have that one of these days. Our idea is to acquire the property, to erect, buy or remodel a suitable building in which we can have regular meetings, for club purposes also, and a wonderful library which the Jefferson County Medical Society has, making a museum and a library which would be virtually in itself a review of the history of medicine in Kentucky. This has been our major activity this year.

McCracken County

H. G. Reynolds, Paducah: I was not supposed to make this report. McCracken County has a membership at present of about forty four. I think one was taken in the last few days, which has not been reported, making forty-five. We have an average attendance of twenty-two. We attribute that a great deal to the activity of our Secretary.

I think the success of a society depends on the activity of the secretary. We have our monthly meetings in the hotel and have dinner at the time, and that seems to work pretty well. I think we have a better fellowship and better feeling between doctors in the last two years than we had previously. Whether eating together has anything to do with it I don't know, but they seem to get along better.

We are having another innovation in the way of inter-city meetings, which I think is a good thing. We invite an adjoining county to join us in a meeting, and they give a program. When we visit them we give the program. We have found that to work out very nicely.

We entertained at our annual meeting of the Southwest Kentucky Medical Association, and all together we feel fairly well satisfied with our meetings.

A suggestion was made by one of the reporters as to assigning a program or assigning someone to give a program for each meeting and selecting the subject. It struck me as being particularly good, and I am going to suggest that to the society—not ask them whether they will write papers, but give them the subject and tell them to write on it.

Perry County

J. S. Gilbert, Hazard: Dr. Brown of Perry County Society was supposed to be here. We meet regularly and always have a good attendance. We meet once a month, and we have a very active society.

President Gardner: I notice that Dr. W. E. Gary, of Hopkinsville, one of the Vice Presidents of this Association, is present, and I will ask him to come forward and preside during the balance of this meeting.

W. E. Gary, of Hopkinsville took the Chair.

Taylor County

J. L. Atknison, Campbellsville: I am not the delegate from Taylor County, but I happen to be the father of the delegate. I tried to keep him in line on the way down here, but he is somewhere in Warren County. I think the lure of the golf course probably has drawn him away from this meeting. He asked me to make a brief report, which I am very glad to do.

We feel that we are doing pretty well in Taylor County. We are a very small county, and there are very few of us. As Dr. McChord said, every eligible physician in the county who is in practice, is a member, and we even went out and borrowed another man from another county, so we are doing very well along that line.

In view of a few remarks I want to make a little later, I want to say that our society is retaining its entity all right, and our members are active in the work.

Whenever a matter comes up that is of interest to the general profession, all we have to do is to call our men together. Recently you may know that the counties were asked to have some man give his whole time to typhoid vaccination. We did not have a man to spare for that, but we called them in and made them agree that they would take care of it, which they are doing. That is an instance of how we work. We all work together down there.

Dr. McChord, our Councilor, told you about the tri-county society. That tri-county society is for scientific work only, and it is succeeding admirably for those three counties, Adair, Green and Taylor. All of them were in the position of having very few doctors in the county and they could not have a very interesting meeting separately, but we do have meetings every month, alternating between the counties, and we are succeeding splendidly with that.

He also spoke about some other meetings that they have during the year, which we do have, and get some outside speakers. These men have been very, very kind to come to us and have been very helpful to us.

I might just end by saying that we think we are all working very well right now in our little neck of the woods.

WARREN COUNTY

W. C. SIMMONS, Smiths Grove: We are very much pleased and happy to have the State Medical Association, but there is a little danger of embarrassment. Way back some forty years ago we did have a very good society when we had somebody living here who would compel us to come in. We don't keep up our society work very well, but we do have a very high type of men practicing medicine in this county, all getting along fine.

We are very much pleased to have the Association meet here. Our retiring President, an old neighbor and friend of mine, is in this county. I was practicing medicine when he was a little boy, forty years ago.

ALLEN COUNTY

A. O. MILLER, Petroleum: We have eight regular practitioners in our county, of which all are in good standing and are members of the county and state societies and are paid in full. They are all in harmony.

FRANKLIN COUNTY

L. T. MINISH, Frankfort: There are 21 physicians in Franklin County, 19 of which number are members of the county medical society. We have regular monthly meetings on the first Thursday at the Capital Hotel. After our scientific program we have luncheon.

Our membership is arranged alphabetically, and one member is designated to furnish the program for the succeeding meeting. By this plan we have been able to have a program each meeting this year.

During the past year the following physicians furnished our programs. From Louisville: Drs. P. E. Blackerby, Kolb, G. A. Hendon and D. Y. Keith. From Lexington: Dr. Charles N. Kavanaugh. Each of these physicians brought us a very interesting and instructive message, and on behalf of our society I wish to express again our appreciation to them for the valued information which they brought.

I am glad to report that our percentage of attendance during the past year has been excellent and that good fellowship exists between all of the physicians of our county.

There have been six cases of typhoid fever reported in Franklin County, this year, and the county health officer reports three-fourths of the county population have been vaccinated against typhoid fever.

SECRETARY MCCORMACK: I wish to read Dr. Hanes' Committee appointments. These are the Reference Committees:

Committee on Credentals::
W. C. Simmons, Chairman, Smiths Grove
J. K. Hutcherson, Louisville
Clark Bailey, Harlan.

Committee on Scientific Work:
W. B. McClure, President-Elect, Chairman, Lexington
A. T. McCormack, Secretary, Louisville
J. W. Scott, Lexington.

Medico-Legal Committee::
J .B. Lukins, Chairman, Louisville
Marshall McDowell, Cynthiana
A. T. McCormack, Louisville.

Committee on Crippled Children:
W. Barnett Owen, Chairman, Louisville
J. D. Trawick, Louisville
G. B. Brown, Lexington.

Committee on The Journal:
C. C. Howard, Chairman, Glasgow
S. E. Stanrod, Cadiz
J. B. Tartar, Russell Springs.

Committee on Legislation and Public Policy:
Irvin Abell, Chariman, Louisville
J. D. Whiteaker, Cannel City
Claude Youtsey, Newport
Granville S. Hanes, President, Ex-officio, Louisville
A. T. McCormack, Secretary, E-officio, Louisville.

Committee on Disaster Relief and Cooperation with the Red Cross:
J. E Edwards, Chairman, Lancaster
W. B. Moore, Cynthiana
O. R. Kidd, Paducah.

Committee on Publicity:
S. J. Martin, Chairman, Bowling Green
A. D. Donnelly, Bowling Green
C. E. Francis, Bowling Green.

Committee on Scientific and Commercial Exhibits:
W. M. Martin, Chairman, Harlan
V. G. Kinnaird, Lancaster
W. E. Gardner, Louisville.

Committee on Medical Education:
W. A. Jenkins, Chairman, Louisville
J. W. Scott, Lexington
J. G. Gaither, Hopkinsville.

Committee on Hospital Standardization:
J. Garland Sherrill, Chairman, Louisville
J. M. Salmon, Ashland
J. D. Northcutt, Covington
Granville S. Hanes, President, Ex-officio, Louisville.

Heart Committee:
E .F. Horine, Chairman, Louisville
Austin Bell, Hopkinsville
J. W. Kincaid, Ashland

Walter Byrne, Jr., Russellville
John W. Scott, Lexington
J. R. Morrison, Louisville
W. L. Tyler, Owensboro
Silas Griffin, Henderson.

Committee on Control of Cancer:
George Hendon, Chairman, Louisville
H. V. Pennington, London
A. W. Davis, Madisonville
L. Wallace Frank, Louisville
W. V. Neel, Henderson.

Committee on Medical Ethics:
W. E. Gardner, Chairman, Louisville
Frank Boyd, Paducah
E. B. Bradley, Lexington.

Auditing Committee:
B. F. Zimmerman, Chairman, Louisville
J. I. Taylor, Elizabethtown
P. K. McKenna, Mt. Sterling.

Committee on Constitution and By-Laws:
R. C. McChord, Chairman, Lebanon
M. F. Kelley, Hindman
J. L. Toll, Lawrenceburg.

Committee on Resolutions:
L. C. Redmon, Chairman, Lexington
L. L. Washburn, Benton
F. M. Stites, Louisville.

Committee on Post-Graduate Course:
P. F. Barbour, Chairman, Louisville
George A. Hendon, Louisville
John Walker Moore, Louisville.

Committee on Woman's Auxiliary:
Mrs. P. E. Blackerby, Chairman, Louisville
Mrs. J. T. Reddick, Paducah
Mrs. W. M. Martin, Harlan.

Committee on Reports of Officers:
J. A. Orr, Chairman, Paris
J. A. Caldwell, Southgate
C. C. Threlkel, Morgantown.

Committee on Prevention of Goiter:
R. R. Elmore, Chairman, Louisville
C. A. Vance, Lexington
L. Wallace Frank, Louisville
E. W. Jackson, Paducah
P. C. Sanders, Danville.

President Gary: Next is the report of the Medico-Legal Committee.

Louis Frank, Louisville: I move that report be postponed.

The motion was seconded and carried.

President Gary: Next is the report of the Committee on Crippled Children. Dr. Barnett Owen is not here, so that will be passed.

Report oe the Committee on the Journal

C. C. Howard, Glasgow: Mr. Chairman, the other men on the Committee are not here, so I have not had an opportunity to discuss this with them.

A few years ago we had some objections to The Journal, but I should like the members to compare our Journal with other journals. In the last few months I have compared it with a number of others, and I feel that our Journal compares favorably and is a great deal better than a great many.

I have nothing further to report, except that this Journal is a fair representative of all the proceedings of the different counties. Each county sends papers that it deems worthy, and each county is represented in The Journal.

If anyone has any suggestions as to improving The Journal, we will be glad to take them into consideration.

President Gary: If any one has suggestions to make, I suggest they make them direct to Dr. Howard, and he can report again at another session.

Report of the Editor

A. T. McCormack: I shall have to report that the file of the The Journal speaks for itself. I will appreciate any suggestions from its owners, who are you, and we will carry them out as far as possible.

The Journal has been a source of great pleasure to us who have had any connection with its publication, because the matter has been made very simple. Papers sent in by the county societies are published, in addition to the proceedings of our own scientific sessions. I think it is probably more nearly a reflex of the attainment of the profession of the state than any similar journal published in any language, because there are no papers rejected; they are all published; they always have been for the thirty years that it has been in existence. That means that The Journal is actually the product of the profession; it is a cross-section of the profession.

As we look at the published volumes bound and in the office, I know every one of us can take a great deal of pride in the progress made from decade to decade. I don't believe any publication contains a higher grade of fine scientific articles, and our members are constantly receiving a post-graduate course from one another.

The discussions of the Jefferson County Medical Society are published more fully than any other, because they have a professional stenographer to take down those discussions, and the discussions are very gratifying.

We especially appreciate your stimulating your county secretaries to send in minutes of all the meetings and to send us personal notes, which is an essential part of the publication. Your progress helps to mark the progress of the state.

President Gary: Next is a general discussion of The Journal.

Smithfield Keffer, Grayson: Mr. Editor, would it be advisable for us to have a corner somewhere in our Journal where we could have the announcement of marriages and deaths of the profession, somewhat as the A. M. A. Journal does? Once in a while one of us dies and occasionally somebody who belongs to the profession gets married. I don't think I have ever noticed very much of that sort of thing in the Journal. Of course, occasionally some great man dies and we say something about it. I think I would like to know when my classmates die and I have to look at the Journal of the American Medical Association to find it out. I don't think it would take much room, and it would be worth while.

Secretary McCormack: I think it would be a good thing to do. We did it for a long time. The difficulty was that every now and then somebody would either marry or die and we wouldn't get a report of it because the county society would not report it, and we would omit the man's name; if he was married he would kick up a row about it,and if he was dead his friends would, so we gradually omitted the thing. I think it is a good thing to do.

L. H. South, Louisville: I made a special trip to Chicago in August to the American Medical Association Journal office for the purpose of having Dr. Fishbein's and Dr. Olin West's assistance to go over every detail of our Journal toward making its appearance better and to see what we could do to improve the make-up of the Journal. I think perhaps in the next issue of The Journal we can show some marked improvement, especially in spacing the headings on the articles and in its the general appearance.

President Gary: Report of the Committee on Legislation and Public Policy.

Secretary McCormack: Dr. Abell asked that be passed.

President Gary: Report of the Committee on Disaster, Relief and Cooperation with the Red Cross, Dr. Edwards, Chairman.

J. E. Edwards, Lancaster: The Committee has not had a chance to meet, and we would like to have a little more time in which to make a report.

President Gary: Committee on Medical Ethics.

W. E. Gardner, Louisville: The Committee is not ready to report.

President Gary: Report of the Auditing Committee.

Louis Frank, Louisville: I move that be deferred.

President Gary: Without objection it will be deferred.

Report of Committee on Constitution and By Laws

R. C. McChord, Lebanon: Mr. Chairman, I have nothing to report except to say that our Constitution and By Laws were gotten up by the late J. N. McCormack and copied almost verbatim and made part of the American Medical Association. If I am not mistaken, I think since adoption of the Constitution and By-Laws there never has been an amendment made to them at all, and I think it speaks well for them. That one fact would indicate that they are almost perfect.

President Gary: Report of the Committee on Resolutions, Dr. L. C. Redmon. That will be deferred, that completes the program for the afternoon.

Louis Frank, Louisville: Before the House of Delegates adjourns, I wish to give notice that I expect to introduce a motion for amendment to the By-Laws, which I believe requires laying on the table for one day.

I also wish to introduce an amendment to the Constitution, which I think requires that the notice of this amendment be sent to each county society two months before the meeting and lays over until next year.

I want to speak briefly of this, referring to Article X of the Constitution. Article X refers to referendum. Under the Constitution as now existing, it is impossible to get any referendum before the general society for action, because it requires a vote of the majority of the members of this society, and I know of no meeting that this Association ever had at which a majority has been present. The membership amounts to something like 1700 or 1800. It seems to me it would be a very difficult thing to do.

If you read the article as it now stands, it reads: "The General Meeting of the Association may, by a two-thirds vote," I presume of those present, "order a general referendum upon any question pending before the House of Delegates, and the House of Delegates may, by a similar vote of its own members, or after a like vote of the General Meeting, submit any such question to the membership of the Association for a final vote." That means, of course, the entire membership. It would require a year to get action ordinarily. "And if the persons voting shall comprise a majority of all the members, a majority of such vote shall determine the question and be binding upon the House of Delegates."

I think that should be amended so if a general referendum is called or any matter is called up by the House of Delegates, it can expedite matters and you can possibly get some action on it.

Therefore, I want to introduce the following amendment to the Constitution: "The General Meeting of the Association may, by a two-thirds vote, order a general referendum upon any question pending before the House of Delegates, and the House of Delegates may, by a similar vote of its own members, or after a like vote of the General Meeting, submit any such question to the membership of the Association in attendance at a General Meeting for a final vote; and if the persons voting shall comprise a majority of the members in attendance at such meeting, a majority of such vote shall determine the question and be binding upon the House of Delegates."

I think the purport of that is very plain. As the thing is now, I doubt whether you would ever get any action unless it were something of vital importance to the profession as a whole.

The other amendment of which I would like to give notice (I am not introducing it at this meeting because I would like to have it thought over, and I would like to talk with the Secretary myself and get his opinion about it as to what would be the best thing) refers to the meeting places of the Society. I think the amendment will explain itself. It is to change Chapter II, Section 1 of the By-laws, which refers to the meeting places of the Association.

"The Association shall hold its sessions annually in one of the following cities, Ashland, Louisville, Lexington and Paducah, but not oftener than once in every three years in the same city."

I will just ask you to take this example of three or four men rooming together without baths. It isn't very pleasant. I think these four towns are able to furnish every comfort to those who want them. Those who don't, don't have to have them, but it seems impossible, in some of the smaller towns, to give the men such comforts as they desire and are accustomed to. Of course, we know it doesn't make a great deal of difference, but there are some people who do care. I personally have a good deal of complaint from the membership following meetings in some of the smaller communities. If it is for any reason desirable that you should meet in some particular place, if this rule were in existence it would be easy enough to suspend the rules and meet somewhere else. This merely provides meeting places widely separated and covering every section of the state.

The Secretary thought a while ago that it might lessen the attendance. After thinking it over carefully I really think that as a matter of fact you will have increased attendance. The central portion where you meet every other year would, of course, be easily accessible to all parts.

I am not formally introducing this now.

L. H. SOUTH, Louisville: Is Dr. Frank in any way saying anything about Bowling Green accommodations? This is my native town; I was born and reared here, and I think this is a good enough town for any doctor in the United States to come to.

R. T. LAYMAN, Elizabethtown: Are we just meeting for our pleasure and ease?

P. D. GILLIM, Owensboro: Anything that renders the Constitution more democratic or renders it more feasible of action, meets with popular approval, but when he designates four cities in the State of Kentucky and leaves out such cities as Owensboro, Bowling Green, and the like, he is going to run up against a stone wall. The Daviess County Medical Society is going to have another grievance, and I hope that that last amendment will meet with defeat.

Coming back to the first amendment, whenever we get anything saddled onto us, like the fable of the old man of the sea, and can't get it off our backs, it breeds discontent.

JOHN W. SCOTT, Lexington: This isn't the time for giving the invitation, but Lexington hopes to entertain the Society next year. I am distinctly against Dr. Frank's proposal. It seems to me meetings such as this promises to be and such as we had at Richmond, are the best meetings we have, and that accommodations can be had. I am perfectly willing to camp out for three or four days, with no conveniences at all, for the associations that one gets at a place like this. I am fairly comfortable at home, but I feel we can put up with these things. Dr. Frank no doubt goes camping, and I suspect puts up with greater inconveniences than at the Teachers' College at Bowling Green. I think we should be good enough sports to put up with those minor inconveniences for the pleasure of such a meeting as I feel sure this is going to be.

R. T. LAYMAN, Elizabethtown: We always have better conveniences than I had at home. (Laughter and applause).

W. A. JENKINS, Louisville: I just want to speak unofficially to this last paragraph referring to the alteration in the By-laws. I believe that the State Medical Association meeting at Richmond year before last was the best state meetiing I have ever attended since I have been a member of the State Association. I think a lot of other men will say the same thing. I don't see any reason for this one falling behind in its standard. What I have seen up to the present time leads me to believe that it will be fully equal to it.

If you have your meeting around a large center, you have got three or four groups of men. One group of men will have a good time and not go to bed at night, and they won't get to the meetings and we won't hear from them as we would like to. Another group of men who are pretty well known socially will get together entirely with the social set, and their time is pretty well taken up. A few doctors will come a long distance, men who can profit most from the meetings, and will be left out in the cold.

What did they do at Richmond? They were too far from town to have a good time. Everybody attended every meeting; everybody discussed papers; everybody got together. After they had their meal in the evening, they propped their chairs up against the wall and reminisced and made plans for next year and made plans for the Association and talked over their problems. They went to bed, got up the next morning and went to work, just as they ought to do. If they are going to attend the State Medical Association, it is their business to attend the meetings.

If we have good plain food and a clean bed to sleep in, we will get along all right. I think it would be a grave mistake to keep the meetings to three or four larger cities.

Secretary McCormack: In regard to the amendment to the Constitution at the proper time I am sure it will be discussed very fully. Of course, it was discussed very fully indeed in the plan for reorganization. The reason the arrangement was not made for votes on business questions at the scientific meetings is perfectly obvious. When we meet in Louisville, for example, there are never as many members present from the other counties of the state as there are from Jefferson County alone. The same thing would apply to some of the other larger societies. It gives an obvious advantage to the larger societies over the regular representation of the county societies.

This Association has had two referendums since this Constitution was adopted. In both instances more than 90 per cent of the members voted, and it was reported by the Council in full, in detail, each member's name being published in The Journal. There hasn't been a referendum ordered for a long time, but it did occur in two cases.

As a rule, in this Association it is quite remarkable what good responses we get to letters sent out from the offices of the Association. A letter from the President requesting action on any particular matter, sent to all the members, as a rule brings 90 per cent replies in two weeks; we have rarely had less than that. The promptness of our doctors in taking action I think is one of the finest things in the Association.

The objection that our organization is not democratic surprises me very greatly, because the organization is composed of delegates from every county society. The societies are represented in proportion to their membership, and the action of the House of Delegates naturally will be taken after more mature discussion than can take place in a crowded general session.

Those of you who are familiar with the history of the Association and who have read the old minutes will be interested in again reviewing that history, because I recall at the Shelbyville meeting, they had to extend it two days; the entire five days was taken up with a trial of Dr. Yandel for arriving at a consultation five minutes before the man who called him in consultation, and talking to the family. That happened in at least six different cases in the Association before the reorganization, when the entire scientific program was neglected and no papers read at all because of the discussion of something in the general session.

The same thing happened in the general session at the American Medical Association. This provision in our Constitution is exactly the same. It was adopted by us first, then adopted by the American Medical Association, and is a provision in the Constitution of every state society in the United States but two, exactly as it is here.

I believe it would get us into great confusion. I can't conceive of how it would make us more democratic than we are, because I don't think it is possible. I think the profession of the state controls this organization absolutely, and in the most ideal fashion that it could possibly be done. The matter is not up for discussion now, but I think we ought to have that in mind in considering the matter.

Louis Frank, Louisville: Relating to the same subject, the vote in this case is not taken by mail.

Secretary McCormack: The referendum is taken by mail.

Louis Frank: Always?

Secretary McCormack: The referendum would fail.

they took the vote of the American Medical Association by mail. Every Fellow of the Association voted.

S. C. Smith, Ashland: What would happen in that case if the members refused to vote by mail and a majority did not vote?

Secretary McCormack: The referendum would fail.

President Gary: I want to introduce Professor H. H. Cherry, President of the Western Teachers College, through whose kindness we meet here today. (Applause.)

H. H. Cherry: Mr. Chairman, Ladies and Gentlemen: I did not know when Dr. South asked me to come in here that I was to be introduced to this assemblage of distinguished visitors and workers for the advancement of the greater citizenship. I desire however, to use this opportunity to express a real appreciation for your presence on College Heights.

I believe in the great cause you represent and the work you are doing. I believe in the Medical profession which is one of the most progressive in this country. I value and appreciate the effective way you have disseminated good health, high living and thinking in our State.

For many years I have said to our studentbody that if their health fails, their education fails. We have given the programs you have so ably championed a leading and commanding place in our course of study. What every Democracy needs is a citizenship that has sound and healthy bodies, trained minds capable of just interpretations and conclusions, and hearts that are willing to serve humanity.

For a number of years, the State Board of Health had its headquarters on this hill and gave us constructive help in our work of organizing our courses of study and in teaching the value of good health. I am deeply grateful for the privilege I had in associating and working with Dr. J. N. McCormack, who has passed into the invisible world, but who lives and serves today in the hearts of the people of our country. It will require another century for the people of this country to fully value his vision, statemanship and personality. He was one of the great men of our Nation and his influence and teaching is with us today. I appreciate the leadership of his son, Dr. Arthur McCormack, who is carrying on the programs of the more abundant health organized and interpreted by his father. We are proud of the way he is doing his work and are wishing for him the highest achievements in all of his endeavors.

May I say in conclusion that all College Heights join me in an appreciation for your presence here today. We are interested in your comfort and happiness. Bowling Green wants to be a generous host. The Doctors of our city have been earnest in making preparation for your coming and College Heights joins the Doctors of this city and county in their efforts to make your meeting an outstanding success in every way. (Applause).

Secretary McCormack: I have a cable from one of our beloved members and a former President of this Association, from Lisbon: "Love and greetings self and association." This was sent to President Hanes from John G. South.

D. M. Griffith, Owensboro: I move the Secretary write to Dr. South and tell him we regret his absence on this occasion.

The motion was seconded and carried.

Secretary McCormack: I have a communication from the Minnesota State Medical Association.

"The House of Delegates of the Minnesota State Medical Association at their 62nd Annual Meeting in Duluth, July 14-16, 1930, passed the enclosed resolution and requested your organization to consider it. If it is approved, copies should be forwarded to the Surgeon General of the United States Army, Washington, D. C., with a statement of the action taken.

"(Signed) E. A. Meyerding, Secretary."

The following is the resolution:

"Whereas, The present Army regulations require that every reserve officer shall, during each five years commission period, put in two hundred (200) hours military work in camp, correspondence school, in active training meetings, or similar military activity, or else become ineligible for renewal of his commission with assignment to an Organized Reserve Unit, and therefore revert to the Auxiliary Reserve in time of peace, and

"Whereas, There are many highly trained, highly skilled and very active physicians who, as reserve officers, have been assigned as chiefs and assistant chiefs of surgical, medical, laboratory, roentgen and other distinctly professional services in Organized Reserve Hospital Units, carrying very little administrative responsibility, and whose professional duties in busy private lives make them especially well fitted for their duties in their Army assignments, but whose same duties make it practically impossible for them to carry on military work in time of peace, and

"Whereas, Many of these men and their valuable attainments are being lost to the Organized Reserve, although they are willing and anxious to serve in time of need and do not aspire to advancement in grade, therefore be it

"Resolved, That the Minnesota State Medical Association, desiring that the medical profession may be of the greatest service to our country, respectfully suggests that the service might be enhanced if the regulations were changed to provide for recommission and reassignment of chiefs and assistant chiefs of professional services of hospital units, even though they have not completed the required amount of military work, and further be it

"Resolved, That a copy of this resolution be sent to the Surgeon and the Commanding General of the Seventh Corps Area, the Surgeon General, the Officer in charge of Reserve Affairs, the Adjutant General and the Chief of Staff of the United States Army.''

President Gary: You have heard the reading of this. What is your pleasure?

S. C. Smith, Ashland: I move it be referred to the Committee on Resolutions for action and report.

The motion was seconded and carried.

Secretary McCormack: Under the amended by-laws of the American Medical Association, associate membership has been provided for members of the profession who have been members of their state association for a definite period of years, I think about thirty, and have retired from practice. Those members always become associate members of the American Medical Association.

We have not taken advantage of that provision of the By-laws, but Dr. Griffith made the very timely suggestion that we invite the older members of the profession to be the guests of the Association during the meeting, and that they be provided with a special table where they will be cared for, of which Dr. Griffith is to be the head waiter. Dr. Stucky has asked to be permitted to be the most humble and the lowest of the waiters in this case, himself very active in the profession, although one of its nestors.

I should like very much if somebody would make a motion that the Secretary be authorized to take a roster of the Association and cull from it those names eligible to associate membership amongst our retired members. We have several: Dr. Carpenter, of Stanford, an ex-president, who comes to mind as a particular example. Dr. Carpenter has lost his eyesight entirely and has lost his hearing, but he is still interested in finding out what is going on in medicine, and he should not be compelled, as he now is to continue to pay dues for membership either in the State Association or in the American Medical Association.

That applies to some other men of distinction. I think Dr. Griffith's suggestion brought the matter to my mind. Following the meeting of the American Medical Association, a number of other societies took advantage of this and I think we should be in position to do so.

Louis Frank, Louisville: I move that such a membership as is outlined by the Secretary be adopted by the Association, for whatever period of years is required. Of course they pay no dues. It is the custom in all special societies to permit men after a certain number of years to apply for such membership. It would be a desirable and a very complimentary thing to do to establish such a membership for men who have retired from practice.

S. C. Smith, Ashland. Do the Constitution and By-laws of the American Medical Association require that they be retired from practice or that they have practiced a definite number of years?

Secretary McCormack: They have to be retired.

The motion was seconded and carried.

S. C. Smith: Most of the delegates have been reading the syndicated articles in the newspapers of some medical writers, and probably some of you have also read some of the material that has been put out by some who are not entitled to write on such subjects, on food fads and various other fads. There is in this list Dr. Frank McCoy, a fellow who calls himself Dr. Sampson who was investigated and reported in The Journal of the American Medical Association some time ago, one McFadden, and Richardson, an osteopath.

The chief of this bunch of faddists is Dr. Percy L. Clark, who is an M. D., and who has the School of Sanatology in Chicago. Clark is putting out some very pernicious and misleading literature, and he is especially emphasizing the dangers of the use of white breads. He claims that white bread causes cancer, in fact everything from scabies to cancer and from chiggers to elephantiasis; that it makes criminals out of individuals; that Hardin, Wilson, and some of our other great men died as the result of eating white bread. The National Food, bureau cooperating with the American Medical Association, have established a system to combat this influence. The American Medical Association has recently established a Bureau of Food Investigation, and I have a resolution here that has been prepared and has the approval of Dr. Fishbein and others of the American Medical Association, which I am asked to read to this Society for its approval.

''Whereas, Much misinformation is promulgated today concerning the question of diets, thus causing the introduction of food fads, very few of which can take the place of the older staple foods, and,

''Whereas, Any balanced diet should contain animal protein, fruits, vegetables, especially the leafy vegetables, and the better grades of bread prepared from flour which will insure adequate vitamin and mineral salt content, digestible fat such as butter fat, and sufficient of the digestible carbohydrates to afford readily available energy, and

''Whereas, The allegation that white bread, meat or any other staple food, when employed in mixed diet is responsible for certain grave illnesses, is not supported by scientific facts, therefore be it

"RESOLVED, That we desire in the public interest to place on record that in our opinion:

"1. The exaggerated claims for various fad foods are unwarranted by scientific evidence or practical experience, and the advertising and other propaganda furthering their substitution for the older articles of diet should be condemned.

"2. The danger of nutritional deficiencies had been grossly exaggerated. No one food is a perfect food, but a diet consisting of dairy products, leafy vegetables, fruits, meats, and easily digested starches furnishes an excess of all food factors necessary for proper growth and nutrition and resistance to disease.

"3. Any variation from a normal diet should be prescribed only by a properly trained physician after a careful study of the dietary requirements of the individual seeking advice. I submit this and move its adoption."

The motion was seconded.

S. C. SMITH: The motion is that the House of Delegates recommend to the Association that it be adopted.

The motion was carried.

PRESIDENT GARY: It will be referred to the Resolution Committee to be reported to the Association.

W. E. GARDNER, Louisville: Dr. John Scott started to speak to that resolution, and I want to know what his reaction would be.

JOHN W. SCOTT, Lexington: I should think a resolution of that sort would be referred to the Committee on Resolutions. I am entirely in favor of the resolution. If the action means removal of faddists and that sort of thing, it is all right. People like McFadden ought to be nipped if there is any way to do it.

PRESIDENT GARY: I heartly agree with Dr. Scott. That is why I want discussion of it at this time if anyone wants to discuss it.

R. E. SMITH, Henderson: There are ninety-two different organizations fighting the medical profession, and one of the shrewdest and one of the most logical and most plausible is this food stuff that we are having handed out. There is where the Woman's Auxiliary can do a tremendous amount of work.

A fellow came down from Battle Creek and told me that he was going to eat hay.

I told him, "Well, a lot of them ought to be eating it."

We can get tremendous reaction if the ladies will back us up. We can't go out and start fighting. We can't get the papers to publish what we want to write. We can get it discussed over the card tables, in society meetings, and one place and another. Every once in a while I hear something sprung about some marvelous discovery of some chemical found in the tomato, or something else like that. I want somebody to examine one of those Chinese eggs that exist for 300 years. I would like to know what the chemical value of that egg is. It is only eaten at weddings, so maybe it contains the vitamin we are talking so much about now, because the Chinese are very prolific.

I think if this diet question were presented before the ladies, we would get a tremendous reaction that we will never get in any other way. They do look to the physicians' wives in a great many instances as people who have authority to speak.

J. R. COWAN, Danville: I am not in favor of meeting these food fads or anything else. It would be the finest sort of advertising for those people that we could give them. If we combat it we are going to advertise them from one end of the land to the other. It seems to me that it would be a great mistake for the organized medical profession to go on record in print as opposing these things. Suppose we do oppose them. If we advertise ourselves in print as being opposed to them, we will get the cry of "organized medicine" and "czarism."

D. M. GRIFFITH, Owensboro: I don't agree with my friend. We had the quacks until the medical profession began to expose them. As long as the quacks were permitted to practice their theories without the public being apprized of what they were doing, they did it successfully. As long as these food faddists are allowed to practice and to fool women's clubs and Rotary clubs and Lion's clubs and all the others, with nobody to tell them they were wrong, those men will go on and succeed as they have been succeeding, but if the medical profession goes on record, in my opinion, and shows the public what these fellows are doing, I believe it will have a very wholesome effect to put them out of business.

LOUIS FRANK, Louisville: I agree with what has been said, but the question is how to get to these people. They think we make a mistake to call these people faddists. They are food propagandists. Probably every one of them is in the employ of some of the various associations. McCoy, for instance, after being exploited in the Courier-Journal and perhaps some of the other papers, was sent out as the paid agent of the California Fruit Growers' Association. These paid propagandists are backed up by money, with paid advertising that rolls up into the millions every year.

I am heartily in favor of this resolution and in favor of getting some action, but I think we will not get it through the newspapers in the way of publicity. The newspapers are interested in dollars and cents. We see in the papers every day all sorts of things advertised. When it comes to barring their propagandists and losing business, I hardly think we will get anywhere.

These men are not faddists; they are paid propagandists.

President Gary: I believe that we will get a good deal of benefit out of that, not so much fighting it, but if the State Association would find out which of these men are propagandists and would furnish that to the profession so they could answer it when it comes to them or let their own clientele know about it, why they are paid, and so forth, we would do more good than anything we can publish in the newspapers that they can take advantage of. I would like to see that incorporated in that resolution.

Secretary McCormack: I am sure the members are familiar with that section of The Journal of the American Medical Association in which these matters are being handled at present, in which all sorts of fakers and men of this class are being brought to the attention of the profession generally. We have recently had an instance in Louisville where one of the most blatant of these birds came to Louisville and secured a hall and announced that he was going to give a course of instruction to the laymen at their expense. We were able, through a committee of the Jefferson County Medical Society, to get immediate action. The owners of the hall refused to permit it to be used. The newspapers refused to publish the advertising, although it had been very remunerative and would extend over something like six weeks. We were able to get to all the other halls in town and keep him from exploiting our people.

The House of Delegates of the American Medical Association two years ago instructed the Trustees to form a Council on Foods, that has been operating with the great legitimate trade bodies of the country in the preservation of the Foods and Drug law and in getting really scientific information on these subjects before the people.

Unfortunately the matter of foods is one thing about which people know so much that is wrong that it is easy to mislead them, and as a result of that, and this modern craze for research, a tremendous number of professors of one thing and another in institutions, who haven't any other line of research to work on, work out some food research, and at the end of a few months or years they publish their progress reports, which are frequently inverts and don't represent any progress, but represent a sort of partisan study of something that wouldn't amount to anything if it were true, and yet they make these reports before scientific bodies, the American Association for the Advancement of Science or something else, it is incorporated in textbooks and taught in schools, and it takes a long time to get rid of it.

It is with a view really to formulating scientific study of these things that the Council on Foods has been organized. I think we can look forward to really constructive action from it. They have gotten together a very distinguished group, and the various trade associations that are interested in the honest distribution of honest food supplies have taken a tremendous interest in the matter and formed organizations to cooperate with the organized medical profession.

I really believe we are getting somewhere in doing this thing. The majority of the state associations, under the leadership of the American Medical Association, have adopted similar resolutions to this. They have been modified in some respects from time to time, but they are practically the same as this.

President Gary: There is nothing further to come before this session.

Secretary McCormack: We adjourn to meet at seven o'clock tonight.

W. B. Atkinson, Campbellsville: I think it would be well to emphasize to the delegates that they be here early the first morning and stay until the meeting is over, and if they can't do that, they have no business with the delegateship. If they are delegates they ought to be at all the sessions.

The meeting adjourned at four-thirty p. m.

Monday Evening Session
Second Session
September 15.

The second session of the House of Delegates was called to order at seven-fifteen p. m. by Vice-President W. E. Gary.

The Secretary called the roll.

Secretary McCormack: A quorum is present, Mr. Chairman.

President Gary: The first thing on tonight's program is the report of the Committee on Publicity, but we will pass that until Dr. Martin comes.

REPORT OF THE COMMITTEE ON COMMERCIAL EXHIBITS.

W. M. Martin, Harlan: Mr. President, the only report I have to make is that the exhibits are here and they have been approved by the American Medical Association. All the delegates and members are invited to look over these exhibits and buy all you can. These exhibits are selected with a great deal of care and are really a post graduate course if carefully studied. All the latest medical books are shown here, as well as the X-Ray equipment, surgical instruments, and things so essential in the practice of medicine.

REPORT OF THE COMMITTEE ON MEDICAL EDUCATION.

W. A. JENKINS, Louisville: Mr. Chairman and Members of the House of Delegates: Your Committee begs to present the following suggested lines for our next year's activities:

1. To carry on our medical work successfully we must have unificiation on the part of the medical fraternity as a whole, namely, U. S. Public Health work, state, municipal, county and individual doctors as units, all pulling together. For this type of work committees should be permanent, and they should work continuously and concertedly.

2. Community medical centers should be formed throughout Kentucky for educational and prophylactic work. Medical health propaganda by talks, lectures, clinics, prophylactic vaccinations, sanitary surveys and other altruistic work should be carried on by such centers. A community hospital should be the nucleus of this center wherever possible, although a great deal of good work can be done even without a hospital.

3. The Kentucky State Medical Association as a body should take a leading part in the medical education of our people, our doctors and our medical students. The association should take an active interest in our Medical School and should have considerable say concerning both the policy and the type of teaching employed in our Medical School.

4. Medical service for all our people throughout the state. This is an important matter and should be the goal of every earnest, good doctor. The best obtainable medical service along all lines should be made available for even the humblest and poorest of our people. This work is especially our work. It has already been started, as you know, and we should continue to work at it unceasingly and tirelessly until our object is accomplished. To do this work successfully we must solicit and obtain personal, state and philanthropic aid.

5. The regulation of specialism in medicine. At the present time this is one of our big outstanding problems. It is the duty of the medical profession to protect our people along these lines. Over-specialization is one of the outstanding faults of modern medicine. In our medical schools of today a large per cent of the senior class have already selected their specialties. The young graduate either starts practicing as a specialist or he takes a six weeks' intensive course and then launches out as a specialist. We now have specialists for almost every organ and structure of the body. The country is flooded with wet diploma specialists. We are constantly splitting off specialties from the parent stem, general medicine. There are several reasons for this state of affairs. A specialty generally means a greater income, more reputation, and the work is less arduous. Again, specialism is especially stressed in teaching medical students. In all of our medical schools we have a large number of specialists, and each one of them is clamoring for more hours to be devoted to his specialty. Each one of them tends, perhaps unconsciously, to isolate and magnify the work which he is doing. A certain glamour surrounds the work. The impression is created that only a few men can do this particular work. It is superior to ordinary medicine. He tends to make specialists in his line of the students. Thus the specialties become separated from general medicine. They are taught in such a way that they tend to become independent, when in reality they should be interdependent. Every specialist who is a teacher in a medical school should have as his chief object the idea of making his specialty fit into and become an integral part of general medicine. In his teaching he should simplify rather than magnify. He should correlate rather than isolate. He should make his subject as simple as possible for the student. He should teach the student to do just as much of his type of work as it is possible for the general practitioner to do safely. Of course he should also teach the student to recognize his own limitations in order that he might be able to make the diagnosis at the proper time and refer the case to an individual possessing the requisite technical skill where such is required.

As the matter stands today, if a man gets tired of general practice he "takes up" surgery. He begins to do all of his own surgery, and forthwith he becomes a surgeon. A man who is too lazy or too incompetent to do general practice goes to London or Paris, stays awhile, and finally comes back with a new piece of machinery and "elects" himself a specialist. The public, and, strange to say, even many of the doctors themselves, have fallen under the sway of this false sophistry. In our large communities of today we find the laity going to the specialists. One member of the family has a skin eruption; he goes to the dermatologist. Another has a cold; he goes to the nose and throat man. And still another thinks that his heart is beating too rapidly, and he goes to the heart specialist, and so on, ad infinitum ad nauseam.

The method of becoming a specialist should be prescribed by the medical schools and the doctors themselves, and if this is not sufficient or possible, then it should be made a matter of legal enactment and the laws placed upon our statute books. Every man who graduates in medicine should be required to spend a period of at least five years (and ten would be better) in general practice. The object of the average medical school should be to produce good general practitioners. The making of specialists is on the one hand a matter of especial fitness on the part of the doctor, as shown by actual practice throughout a period of years, and second, a matter of special preparation in post-graduate schools and hospitals, the candidate taking a definite and prescribed standardized course.

I am going to make a rather broad and sweeping statement, and I make it without the least fear of successful refutation. It is this: When it comes to medical matters, the best guide that the individual or the family as a unit of our population can have today is the competent, first-class general practitioner, such a man will be able to recognize and successfully treat over ninety per cent of our ills, and he will be able to do this with only a minimum of costly laboratory tests. When the service of a specialist becomes necessary, he is still the best guide, because he is on the inside and he knows who is really a specialist, and he immediately sends or takes his patient to the proper man. And he again takes charge of the patient after the special procedure has been instituted.

President Gary: We wish to thank Dr. Jenkins for that splendid and very complete report. It is now open for general discussion.

Louis Frank, Louisville: I enjoyed Dr. Jenkins' report very much indeed. I fail to see, though, why today the general surgeon and the study of general surgery should be looked upon as a specialty. Since the very early days of medical schools when a man occupied professional departments which covered a number of branches, it seems to me surgery has been one of the fundamental branches that have been taught in medical schools. Surgery, general medicine and obstetrics have been the three great divisions.

With much that he has said I am heartily in accord. I regret very much, however, that the doctor seemed to find fault entirely with the surgery specialists and the various specialists in surgery. It seems to me today the trend in practice is rather away from surgery and specialism in various departments of what we might call or have called internal medicine, general medicine, rather than in surgery itself.

I believe that there are more men today going into the various departments, the various specialties, if we may call them that, in internal medicine than there are going into these various specialties in surgery.

One more thing which he brought up (at dinner Dr. Cowan and I were discussing the very same thing) is the compelling of students to take so many hours in every special department, be it medicine or surgery.

My own idea (it is not my idea, it is an old, old idea) is that in America, and I know nowhere that medicine is taught that it is taught just as it is in this country, we should make certain departments obligatory, that is general medicine, general surgery, obstetrics, and then give the student time enough to take up such specialties or such special studies, eye, ear, nose and throat, some urology, proctology, what-not, as he may desire; let him give such time to each special department as he may choose. A student may not care to put in a great deal of special time in the study of urology, but he would prefer to study dermatology. Let him put in all the time that he can on his special preference, but make the time that is to count for his graduation, fundamentals.

I think the great lack in all our medical schools today, and the department that should be very much accentuated and insisted upon, with more time spent in it, is the department of obstetrics. If we look over the curricula of the various medical schools, we find that obstetrics is very much behind with reference to the number of hours that it is obligatory for the student to take before he may come up for his degree.

Our curricula certainly do need very extensive modification, and we should train men to be more rounded out to assume the duties of medicine.

Notwithstanding what the doctor said, I think the time is past when, unless obliged, the general practitioner should engage in surgery or in a great deal of work that is now done by specialists. I think we all must concede that these men devote a great deal of time to the study and work in special lines and are probably more competent to carry them out. In these days of quick communication and good roads and ability to get people places, they will fare a great deal better in many instances if they are referred.

I want to add just one word to what he said about the general practitioner. I presume by that he means the family doctor. God bless him, my hat is off to him. I wish we had more of him. We haven't.

And the word "honest" should be added. We all know that there is a great hue and cry in this country about fee splitting and division of fees and so forth. The newspapers in the East have very recently discussed it. In addition to the physician being a capable and competent man, he must be an honest man.

S. E. Smith, Ashland: Either Dr. Frank or I misunderstood the meaning of Dr. Jenkins' reference to the surgeon; perhaps it was I. I thought he meant especially the man doing general practice who started operating his own cases and decided he was a surgeon, without proper training. I think if that was his meaning, the point was well taken. I don't believe in any six weeks' specialists. We have them in various parts of the country, who try to specialize on various subjects in six weeks' time. A man who can do that has to have a lot more sense than I have, and I think I have average intelligence. I think if there is anything in the world that the Kentucky Medical Association can do to prevent a man from coming out and announcing himself as a specialist when he has not had sufficient apprenticeship or training in the specialty, we ought to do it as a safeguard to the public.

It should be necessary, in my opinion, before a man starts doing general surgery, that he serve an apprenticeship of at least three years. I think it takes three years' apprenticeship to qualify any man to go ahead and do a major operation on his own, and perhaps five years.

In order to get your degree in the science of surgery at the Mayo Foundation, I think they require you to stay either three or five years. A course like that has its disadvantages. They turn out some wonderful technicians, but they don't allow them, always, to develop good surgical judgment. Those men can do as pretty and speedy an operation as you would want to see, but many times you observe a serious immaturity of judgment when it comes to dealing with surgical conditions.

R. E. Smith, Henderson: Does the State of Kentucky require an interneship before one can practice in the state? I think if in some way or another we could get that requirement for two years, it would make a great deal of difference in the number of specialists that we turn out. A man in a good hospital for two years will learn very quickly that he is adapted to one thing or another. Also, he will stay up several nights on obstetrical cases, and he will know some obstetrics when he gets through. Only the bad cases come to the large hospitals. We can increase the requirements, not in the educational part of the medical schools, for they are jammed right up to the minute now; we can't teach a man any specialty in the medical school, it is an impossibility. A man has got to get the ground-work of medicine as it is and a smattering of everything else that is not absolutely essential. Let him have two years and require that he serve two years as an interne in some good hospital, and he will know more. And don't make it "any" hospital. Then we will obviate a good deal of the trouble we are having with the specialists that develop over night.

John W. Scott, Lexington: It would be interesting to speculate, if the plans of the doctor who last spoke were carried out, how many counties would be without a doctor in the course of, say, ten years. How many now are without one?

Secretary McCormack: We have none that haven't any, but some have only about three.

John W. Scott, Lexington: The number of doctors practicing in the country, with which we are particularly concerned, would be tremendously reduced. That is a consideration. On one hand we are discussing the question of lowering standards of degree and on the other hand we are discussing raising the hospital experience of the men to get the degree. It is a rather paradoxical situation.

President Gary: Do I understand that that refers to specialists and not to general practitioners?

R. E. Smith, Henderson: The states that require two years of school and three years of interneship have more doctors than the states that don't require any.

D. E. McClure, Elizabethtown: I want to emphasize the last statement that Dr. Frank made. In all the discussion relative to the general practitioner or specialist, the most important word, that could be given to any individual, is the word "honesty." If a specialist is down right honest, he is not going to be open to any righteous criticism. If the general practitioner is actually honest, he is not going to be subjected to very much legitimate criticism.

There is one particular thing that I would like to hear discussed in this discussion tonight. We all recognize the fact that preventive medicine is the most important thing connected with the practice of medicine in this state. Yet the conduct of all of us, including not only general practitioners, but the State Board of Health of Kentucky, has been to make preventive medicine so cheap when it comes to actual practice that the people more or less hold it in contempt.

I don't know what it is they are practicing in the rest of the state, but in my county, which I think is an average county of Kentucky, the custom is to vaccinate people for smallpox for a dollar for the folks who have the dollar and for nothing for the folks who haven't the dollar.

According to my way of looking at things, when you make a thing too cheap you bring it into utter contempt.

In my county the good doctors, those we consider the ethical doctors, charge five dollars for typhoid inoculation. The people who pay five dollars for typhoid inoculation appreciate it and continue to have it done every third year.

Vaccinations and inoculations should be a source of considerable legitimate income to general practitioners throughout the rural districts. Yet the practice of some of the rural doctors and the encouragement of the State Board of Health have in a great many instances eliminated that source of income to the legitimate doctor.

I am not saying this in criticism of any particular locality, because my observation is limited to my surrounding territory. There may be places in Kentucky where it is necessary, where it is essential, that these things should be done for nothing, but I can't conceive of it.

I believe that the rural doctor is entitled to a legitimate, fair income for vaccinations and inoculations because we acknowledge that preventive medicine is the most important thing in connection with our work. Yet if we make preventive medicine of such a nature that it takes away from the rural doctor his source of legitimate income, we are bound to bring it into disrepute with that class of men, and instead of having them honest doctors standing for an honest fee for good service, the first thing we know we will originate a generation of charlatans who will make unnecessary trips to the sick, who will write unnecessary prescriptions.

In considering these things, gentlemen, let's be practical, let's be honest, and let's give to the hardworked, hard-put rural doctor a chance for a legitimate and honest income.

I never talk to a medical audience or a lay audience where the subject can be honestly and legitimately approached that I don't take this position in regard to medical education.

We have developed in the medical schools of this country not a system for making good, useful bedside doctors, but we have developed a system of medical education that makes splendid technicians. For example, at six-thirty last Friday night I was called to see a ten-year-old child who had been sick since sometime in the afternoon of the day before—sick at the stomach, cramping, no temperature. The folks thought because she didn't have a high fever there wasn't anything much the matter with her and didn't call a doctor until six-thirty Friday night when the child had been sick thirty hours. Within less than thirty minutes after I saw this child she was in the ambulance, and in less than an hour and a half she was in the hands of a surgeon; yet she had a ruptured appendix and an abdomen full of pus.

If your modern technician that our present medical schools are turning out had taken time to make a blood count and all those technical things, what would have happened to the child?

There is just one other word that Dr. Jenkins used in his paper that I want to mention. That is the word "philanthropic." The curse of the medical profession, in my estimation, has been its unlimited philanthropy. When the fellow who is practicing in the rural districts, as I understand it, turns himself into a philanthropist with his patients, he not only wastes his own usefulness, but he becomes more or less a menace to the people he serves.

As I said in the Councilor meeting at Bardstown the other day, I want the doctors of Kentucky with whom I come in contact and whom I try to influence to become missionaries for a return to the American spirit in this country, which is a spirit of self-reliance and individual resourcefulness.

The rural doctors (perhaps this might apply to city doctors) who dedicates his life as much to trying to make better citizens out of the people whom he serves as he does to serving his own purpose, is going to accomplish more good in this country than any other class of men in the world, because he has it in his power to instill into the people whom he serves a spirit of self-reliance and self-dependence.

The man who pays his bills, whom the doctor teaches to pay his bills, becomes a better citizen in every particular, and the doctor who does unreservedly, carelessly , unnecessary philanthropic work is not only doing himself a damage, but is damaging everybody whom he serves.

Another thing that I said in this meeting at Bardstown the other day I want to repeat here. If we continue in this country in the next twenty-five years as we have done in the last twenty-five years, encouraging in the American people the doctrine of old-age pensions, the doctrine of retirement pensions, the doctrine of free clinics for all the ills of the people, we are going to sap from this great American people their spirit of resourcefulness and independence that has made this country what it is in every phase of its national life, and we will become a people of parasites.

There was a great deal said in this afternoon's session about unnecessary operations. I know there are a great many unnecessary operations being done by surgeons of this country, but I don't want to take all that blame to the surgeon. The fellow who gets too proud of himself and too proud of his own knowledge and his own importance to acknowledge that he has a family doctor, in my notion is the most to be pitied of anybody that I know of, no matter who that family doctor may be even though he is a pretty common proposition. He may know but very little of scientific medicine, but if he is honest and the layman is honest with him, he is much better fixed than the fellow who through self-pride or some other reason, says, "I haven't got any family doctor." The bird who goes to the city hunting his specialist without the backing and the protection of his family doctor, gets just exactly what is coming to him, and it always does me a bushel of good to see him get it.

Folks let's all try to do one thing. It is within the power and the province of this Kentucky Medical Society to do this if they will get their collective independence together and center it upon one thing. By some means let us as the Kentucky Medical Association open up to the bright, ambitious rural boys and girls of this country a way in which they can get a medical education so that they can go back and serve the people, their own people.

It doesn't make any difference what the statistics of this country are, I know that there is a demand upon the part of the rural people for some means by which their ambitious and intelligent sons and daughters may study medicine and bring back the country practitioner and the family doctor. Don't tell me that the day of the family doctor has passed. If the poor and more or less illiterate people of the back districts have got to depend upon the specialists for their medical service, they are going to the quack instead of the specialist, and it is not going to be very many years until they do it.

As I said a while ago, our system of medical education is not educating bedside doctors. How could it be? In most cases they are not being taught by a bedside doctor, but by a specialist who never practiced medicine. How could they be good bedside doctors? What we want in this country is men taught to know how to go out and find what is the matter with the fellow who is acutely sick, and to know what to do with him at the time. It can be done, it has been done, and there are men practicing medicine today who know how to do it. Let's try to get it over to that poor, pitiful fellow who hasn't any family doctor that he ought to get himself one, unless he wants to get skinned by the specialist when he goes to town. If he won't listen and won't get himself a family doctor, let's rejoice when he does get skinned. (Laughter and applause.)

President Gary: I wish to thank the members for their generous discussion of this subject.

V. A. Stilley, Benton: I move we adopt Dr. Jenkins' report in its entirety.

The motion was seconded and carried.

President Gary: We will now have a report of the Committee on Woman's Auxiliary, by Mrs. P. E. Blackerby of Louisville.

Report of Committee on Woman's Auxiliary

Mrs. P. E. Blackerby: Mr. Chairman and Members of the House of Delegates: I am delighted that the privilege is afforded me to come to you today from your Woman Auxiliary and to extend their greetings and felicitate you upon the splendid work you are doing as the official representatives of Kentucky's great medical profession. You see, we are in position now to know directly and not by confidences back home, something of your plans and progress, for we, your wives, mothers and daughters, or may I just group them all and call them your sweethearts, are now enjoined by your decree to assemble each year and to play, plan and work that we might, by organized efforts, do something that will be of service to the association and contribute to the advancement of the profession; in other words, to consolidate our positions and be real help meets.

To live up to our obligations we must know something of your accomplishments of the past and plans for the future. This knowledge is being acquired through county meetings where the Auxiliary is permitted to sit in at the society sessions and hear scientific and semi-scientific addresses; by way of study courses, either correspondence or in classes conducted by a study course committee chairman, and through the medium of the radio.

As regards the latter, permit me to call your attention to the fact that one of the broadcasting stations of Louisville has carried for several months a special feature that permits the broadcasting of semi-scientific addresses on medical and public health topics. This was sponsored by the State Auxiliary, and more than thirty-two physicians have spoken over the radio.

In several counties, Auxiliary aid committees to charity hospitals and clinics are rendering a service distinctly in keeping with the knowledge and capabilities of doctors' wives. This service has included flowers for ward patients, entertainment for the sick or afflicted children in curative or convalescent hospitals, and the work of committee groups meeting at hospital centers for sewing and preparing various materials needed to supply charity beds, wards, and nurseries.

You will be interested, I know, in the results already obtained by our State Historical Committee, of which Mrs. W. F. Boggess of Louisville is Chairman. Over 200 life sketches of physicians have been secured, and eleven county Auxiliaries have sent the State Chairman medical histories for their counties. These are being accumulated for a Medical Book of Reference that should prove invaluable some day.

With such programs we are gathering much knowledge to ourselves, and, better still, are helping to bring the history and attainments of the doctors of yesterday and today before the public, with the hope that a proper esteem and affection for the profession may be inculcated into the minds of thinking people.

As you know, our Auxiliary movement is national in scope, including the American Medical Association, the Southern Medical Association, and thirty-eight state medical associations. The National Auxiliary is sponsoring some very worthwhile programs and projects that are approved by the American Medical Association. The Southern Auxiliary is bringing together in bonds of fellowship and delightful association many of the finest women of the South, whose fortunes and happiness are one and the same with the success and attainments of the Southern doctors.

Your Auxiliary, in which I bespeak your interest and pride, has the distinction of having inaugurated two movements that have attracted the attention of the national body; First, the study course for Auxiliary members. This course included the medical and public health laws of the state. Second, the launching of the campaign for funds to establish a memorial to Jane Todd Crawford, the heroine of the operation that brought fame to McDowell and to Kentucky medical history.

Some measure of success has attained to both of these, and your Auxiliary is quite proud of each, but, may I say, in regard to the latter, the Jane Crawford Memorial, that we earnestly hope you will help in every way possible to hasten the day when our Auxiliary may see its ambitions realized and be able to honor the heroine in befitting manner, as you on the occasion of the meeting of the Southern Medical Association will again honor the hero, the immortal McDowell.

We take it as a compliment that you are willing each year to include our report in your program, and it is a temptation to take a great deal more time than propriety permits —always a temptation to a woman—but we must hasten on.

Warren, Kenton-Campbell, Marion, Letcher, Hardin and Pike counties were organized this year, and this brings the total to twenty-nine county Auxiliaries. I may say, however, that a number of our local Auxiliaries have become inactive, and I would like to express the hope that if this applies to any county represented here, the delegate or delegates will go back home determined to stimulate renewed interest in Auxiliary meetings and programs.

Our paid-up membership has not yet become stable, but we have avoided lapsing the membership of many because of our earnest desire to have your Association represented by an Auxiliary of whose personnel and reputation you could be proud. May I whisper in your ears: Please urge your doctors back home to give the good wife, mother or sister a birthday present of a dollar to pay her dues if she is in arrears; it might become a habit, and you would soon have an Auxiliary that could not be shaken from its moorings. We just can't lift ourselves by our bootstraps, and we must, of necessity, hang onto your coat-tails. Please make our anchor sure.

We are ambitious to have our doctors well thought of, and with your encouragement we can, by united action, broadcast to the world that scientific medicine has a most notable future.

Our greetings are sincere; our affection for the doctor is beyond measure, and with the hope that we may, by organized effort, add something to the glory of the medical profession, we solicit your united interest in your Woman's Auxiliary to the Kentucky State Medical Association. (Applause.)

A motion was regularly made, seconded and carried, that the report of Mrs. Blackerby be adopted.

President Gary: The report of the Committee on Postgraduate Course will be postponed in the absence of the Chairman, Dr. Phillip Barbour.

The report of the Committee on Hospital Standardization will be passed.

Report of the Heart Committee

E. F. Horine, Louisville: Mr. Chairman and Delegates of the Kentucky State Medical Association: Further progress has been made by your Committee during the past year in the study of the incidence of heart disease in Kentucky. We are convinced that hypertensive heart disease constitutes the most prevalent form. Unfortunately the true incidence of this type is not manifest because the etiological diagnosis is not always given in the death certificate. If we are to make real progress in our study of heart disease, it will be necessary for physicians to classify their cases from an etiological standpoint.

The Heart Committee respectfully recommends to the Bureau of Vital Statistics that it endeavor to have physicians signing death certificates specify the etiological type of heart disease present, in addition to the structural lesion. Such a forward step by our own Bureau would probably lead to the adoption of such a plan by other states and by the National Bureau.

On May 7, 1930, the Heart Committee sponsored a heart clinic at Williamsburg during the meeting of the Cumberland Valley Medical Society. This was the first strictly heart clinic ever conducted in the state. Many physicians in attendance at the Cumberland Valley Society volunteered to assist in examining the large group who came from the surrounding territory.

Actually 184 were examined, and approximately ten per cent had organic defects; there being eleven with hypertensive heart disease, two with arteriosclerotic hearts, three with rheumatic heart disease, one with an advanced thyroid heart, and three with congenital defects. Three had an effort syndrome, and seven patients had premature contractions without a discoverable organic lesion. The two most interesting cases were brothers aged eleven and seven, each complaining of shortness of breath and palpitation. Marked anemia was present, normal sized hearts, and blowing apical systolic murmurs. They were undersized, undernourished, had prominent abdomens, dry skins, and slight edema of both lower limbs. Uncinariasis was diagnosed, and the parents were advised of the necessity for consulting a physician who would administer the proper treatment. Such clinics undoubtedly arouse a certain definite amount of health consciousness in the community where conducted, and the local physicians ultimately are consulted more freely.

The Committee continues to offer its services collectively as well as individually to any county society desiring any information concerning the heart problem in all its phases.

Respectfully submitted,
Austin Bell, Hopkinsville,
J. W. Kincaid, Ashland,
Walter Byrne, Jr., Russellville,
John W. Scott, Lexington,
J. R. Morrison, Louisville,
W. L. Tyler, Owensboro,
Silas Griffin, Henderson,
Emmet F. Horine, Louisville,
Chairman.

A motion was regularly made, seconded and carried that the report be adopted.

President Gary: I just want to announce the arrival of the Sergeant-at-Arms, Dr. Owsley, of Lily, Kentucky. (Applause.)

Report of the Committee on Medical Ethics

W. E. Gardner, Louisville: Inasmuch as no complaints have been referred to your Committee on Medical Ethics, we have no formal report to make, but would simply reiterate the fact that it has been the policy of the Kentucky State Medical Association to follow the Code of Ethics as recommended by the American Medical Association, and that the interpretation of such a code should be in a large measure left to the common sense and good judgment of the various members of the medical profession, at the same time not losing sight of the fact that the patient has certain peremptory and inalienable rights which should always be given first consideration.

While our Code of Ethics is, in fact, little or nothing more than the practice of the Golden Rule so far as our professional relations with each other are concerned, yet it is the duty of the organized profession as a whole to set up certain safeguards for the protection of the patient in order that he may not be unduly exploited by the physician for his own selfish purposes in utter disregard of the patient's confidence in the high ideals of the medical profession which have become more or less traditional in the eyes of the public.

Time will not permit that we discuss details of methods, nor shall we attempt to lay down any hard and fast rule as to what shall be the conduct of the various specialists in their relations with the general practitioners, so far as the proper control and future handling of any particular patient is concerned, and we would here, again, be forced to rely upon the sense of fairness which we believe to be a part of of the moral fiber of every reputable member of the Kentucky State Medical Association. There is one abuse of the confidence imposed in us as physicians, however, of which we hear much discussion in various groups, from time to time, the extent of which it is well nigh impossible to establish at any particular time, and that is the matter of fee splitting. This your Committee unreservedly condemns in all its various methods of practice, and we do not believe that any physician, whether he be the donor or recipient of emoluments in this manner, should be permitted to become or remain a member of the Kentucky State Medical Association. There is nothing which will destroy the high ideals of our profession so quickly and so completely as such so-called business methods if allowed to go unchecked.

There is appended herewith a questionnaire recently mailed to many members of the medical profession by the Medical Journal and Record of New York City, seeking an expression of opinion regarding the "Business Ethics of Medical Practice" which has furnished some food for thought and which might be worthy of consideration by this Association at a future date.

We have not attempted to answer this questionnaire, but it might be worth while to read the questions.

1. In what way does the public abuse medical charity?

2. What plan have you for a change in the financial relations between patient and physician?

3. Do you think organized medicine should concern itself with the economic conditions of medical men?

  a. In relation to their practice?

  b. In regard to their fees?

  c. As to the salaries of teachers?

  d. Salaries of physicians in official capacities?

  e. In hospitals and dispensaries?

4. In what ways do you think the workman's compensation laws affect the medical man?

  a. Have you any suggestions for changes which would benefit the medical practitioner in private practice?

5. Do you think the large medical centers affect injuriously the general practitioner?

  a. What suggestions have you to correct any possible bad effects?

6. Do you think it feasible to establish a standard fee schedule?

  a. What plan do you suggest?

7. On what grounds do you advocate or oppose fee splitting?

8. Give a general plan which you feel would work in regard to the way a physician should operate his office in regard to bills and accounts.

9. Do you think the physician should have some special advice regarding his investments, or should he be allowed to drift for himself?

10. What is your attitude regarding periodic health examinations?

  a. For the public?

  b. For the physician?

11. What do you think in general of cooperative plans for medical practice?

  a. What suggestion have you?

12. Have you some plan whereby the medical man can improve on the keeping up with the advances in medicine regarding literature, periodicals, etc?

13. Have you any further suggestions?

14. What is your attitude regarding medical advertising?

  a. In the press?

  b. Through social activities?

  c. Other devices which you consider ethical?

15. Do you think a medical man should openly attack the practices of another physician which he considers injurious, or should he whisper about them?

16. What is your attitude toward liability or malpractice insurance?

17. Do you think a medical man should lend his name, his efforts, or those of his assistants to commercial concerns for pay?

18. Give your reasons for referring or not referring a patient to an institute which advertises directly to the public.

19. What would be your reasons for not referring a patient to a physician who is connected with such an institute?

Respectfully submitted,
Frank Boyd
E. B. Bradley
W. E. Gardner, Chairman.

S. C. Smith, Ashland: Mr. Chairman, this, is a little aside from the subject but I don't know when to bring it up. Some of our leading pharmaceutical houses are advertising in the press some of the things that in my mind should not be advertised. I think that this Association ought to go on record in the form of a resolution condemning such practice. They are advertising a number of things that in my opinion should not be put before the public in the manner that they are doing it through the press. Parke, Davis and Sharp & Dohme and some others are resorting to newspaper advertising.

President Gary: Will you put that in the form of a resolution and present it under the head of new business?

S. C. Smith: I will be glad to.

John W. Scott, Lexington: I take it that the discussion of the ethics of the pharmaceutical houses is out of order, then.

President Gary: No I just asked him to present his views in written form to the Resolutions Committee.

John W. Scott: Is it in order to discuss that at this point?

President Gary: Yes.

John W. Scott: I have a concrete instance to bring forth. In the February issue of Therapeutic Notes of Parke, Davis & Company, there occurred what you might call an editorial discussion of the uses of vaccines, general stock vaccines, by Irons and Hektoen, this article having appeared in the American Medical Association Journal. I was surprised to see that Irons and Hektoen had declared themselves in the way this article led one to think that they had, and I was not greatly surprised to find that they had been grossly misquoted. In fact, the tables all went to show that the class of medical men whom they quoted in the main did not use stock vaccines, which was directly in contradiction to the statement which occurred in Therapeutic Notes.

A detail man from Parke, Davis & Company came into my office a few weeks after that, and I brought this matter up. I had the article in Therapeutic Notes and Hektoen's and Iron's original article side by side, and I asked him how he thought they compared. He had to admit that one was a gross misquotation of the other.

I said to him, "Now you can tell your house that I said this."

He said, "Well, you will certainly hear from them.

I said, "I hope I shall."

They wrote to me a letter which acknowledged that they had culled from Irons' and Hektoen's article things which they considered favorable to their contention, but that they had not represented fairly the article by these men.

I wish that some of you would compare it for yourselves. They quote the reference to Irons and Hektoen, so there is no difficulty in looking it up. To me it is a definite instance of garbling an article for what one would naturally assume was the desire for profit on the part of this firm.

V. A. Stilley, Benton: I move the report be adopted. The motion was seconded and carried.

President Gary: Committee on Disaster Relief and Cooperation with the Red Cross. J. E. Edwards, Chairman.

Report of Committee on Disaster Relief

J. E. Edwards, Lancaster: Since Kentucky and the entire central part of the United States are experiencing the most disastrous drouth known to this country, it is necessary for all agencies to make preparation to meet such situation and render aid to those who are made to suffer from such a disaster.

This Committee recommends that such medical aid as may be necessary for the relief of the suffering be rendered by the organized county societies in cooperation with the Red Cross; that if other aid than can be rendered by the local physicians is needed in any community, such be determined by the county medical society and application for such be made through its Secretary by order of said society.

Louis Frank, Louisville: Mr. Chairman, the Red Cross is a perfected organization which extends all over the country. I therefore think that the wording of this resolution should be changed. The intention seems to be that measures for relief shall first go to the county society, and unless there is objection I move you, sir, that this resolution be made to read that the Red Cross render such aid in connection with the county medical society. No county medical society, as I understand it, is fitted financially or otherwise to give immediate aid in case of disaster, but I think the Red Cross should work through the county medical society. If you put the county medical society ahead of it, it would complicate matters a great deal if the Red Cross is really needed.

Secretary McCormack: I am sure the purpose that Dr. Edwards has in mind is to conform exactly to the Red Cross plan. The Red Cross seeks, under its agreement with the American Medical Association, to obtain relief locally first. If the local medical authorities can't give medical relief (it only refers to medical relief), then they must say so to the Red Cross and to the State Association, and the State Association then, if it can, extends that medical relief through volunteer members of the State Association.

Louis Frank: Then medical ought to be inserted.

Secretary McCormack: Yes, and that will be done in the proper place. Then if the State Association is unable to supply enough physicians to comply with their request, they make their request through the American Medical Association for such additional physicians as they need.

J. E. Edwards: "Such medical aid as may be necessary" is in the report.

Louis Frank: I move the report be adopted.

The motion was seconded and carried.

President Gary: We will now have the report of the Committee on Resolutions.

Report of the Committee on Resolutions

John W. Scott: I can report that the Committee has met and has reported favorably upon both the resolutions which were put in its hands. One of them, the resolution regarding the use of these so-called food fads, was read before the House this afternoon. The other resolution is with reference to the medical reserve officers.

President Gary: A motion for the adoption of the resolutions is now in order.

Louis Frank: I move that the recommendation of the Committee on Resolutions with respect to these two resolutions be adopted.

The motion was seconded and carried.

President Gary: We will now hear the report of the Council.

Report of the Council.

R. C. McChord, Lebanon: This is a compilation of the work of the Council itself, and it is unanimously adopted.

It is gratifying to report that in spite of unprecedented economic depression, the paid membership at this time is 1769 as against 1801 last year. As a number of those who are delinquent have signified the intention of paying their dues, our membership will remain approximately the same as for the past several years. When it is considered that there are 2650 physicians licensed in the state, a large number of whom are not in active practice, we think this an excellent showing.

We have published in the last issue of the Journal the report of the auditor on the accounts of the Secretary and Treasurer. We desire to urge that the members of the House of Delegates read this report carefully and thoughtfully. All of the appropriations and all of the work of the Association are entirely under the control of the House of Delegates at all times.

Our affairs are in excellent shape. Our total assets are $18,913.51 as against $16,375.90 last year. The balance on hand in the checking account is $6,235.17 this year as compared with $5,074.31 last year. The receipts for the Journal were $9,877.63, and the cost of its publication was $7,899.40. This favorable financial situation has resulted from a continuation of the advertising income from the Journal, which has enabled us to keep a balance above operating expenses for all but two of the last twenty-five years. The Journal has continued to comply with the policy of this House, of publishing practically all of the articles read before county societies, as well as the scientific proceedings of the sessions of this Association. Those unfamiliar with this policy have sometimes criticized it. We merit and invite such criticism. The Association has continued to improve the Journal from year to year because contributions of its members have improved.

For the past six years the Association has cooperated with the State Board of Health in the enforcement of medical practice and other health laws. The House last year authorized an expenditure not to exceed $2400, but fortunately we were called upon for only $300 of this. It is recommended that not to exceed $1200 be appropriated for this purpose for the next year.

Under our unfortunate and clumsy system of court procedure, the constantly changing county and commonwealth attorneys, elected under our partisan and political system, too frequently result in the election of men who are not sufficiently energetic or interested in law enforcement to effectively enforce the medical and health or in fact any of the other laws of the commonwealth. It is indeed surprising, under such a system, that the majority are such good officers. Realizing, as physicians do, the vital importance of the health and medical laws, it is natural that irritation will frequently arise amongst them, because of failure in their enforcement. In those sections of the state where physicians have joined with other progressive organizations of citizens in the selection of worthwhile attorneys as court officials, there has arisen no complaint. Complaints of evasion of the law come from the poorly organized counties and districts which continue to select these officials as reward for political service or because of the predominating influence of some special interest, and it is apparent that it will be impossible to improve conditions in these sections until public opinion has been educated as to the importance of the selection of competent officials. This year, again, our attorneys have assisted in the preparation of more than 186 cases, and they have been effectively aided by the commonwealth and county attorneys in many sections of the state. Again we would report more convictions for violation of health and medical laws than ever before.

We are again able to report that the careful management of the Medico-Legal Committee has reduced the cost of attorneys' fees, which for the past year were $1025 as against $1225 last year. Court costs and expenses for the past year are $154.85 as against $93 last year.

We regret to report that there is no decrease in the number of such unjust blackmail suits against reputable members of the profession. The Council again calls to your appreciated attention the very effective work of Honorable Fred Forcht, the general counsel of this Committee, who has given so generously of his time for many years for quite nominal remuneration. Dr. J. B. Lukins, Chairman of the Committee, has devoted much time and thought to this work, which he has conducted most successfully.

It is very important that physicians, generally, carefully consider the character of such malpractice suits as are being brought. To this end they are urged to read thoughtfully the decisions of the courts published currently in the Journal of the American Medical Association. It is evident from careful study of such cases that there has not been a suit decided against a reputable physician in many years which could not have been prevented if the legal precautions which should now be known to all of us had been taken at the right time. The whole subject of malpractice procedure has become definitely technical, and in order to avoid becoming victims of injustice from its operation, physicians must acquaint themselves with these procedures, as they do with the other complexities of modern medicine.

We again call to your attention the Irvine-

McDowell Memorial Hospital for Trachoma, located at Richmond. This beautiful building and grounds were bequeathed to the Kentucky State Medical Association by Mrs. Elizabeth Irvine as a memorial to her grandfather, Ephraim McDowell, the immortal father of ovariotomy. The State Association, representing the physicians of the state, provides the building, and the State Board of Health and the United States Public Health Service jointly furnish the personnel and finance the conduct of the hospital.

Last year the House appropriated an amount not to exceed $200 a month to pay the expenses of additional organization; of this amount $1200 was expended. It is recommended that this appropriation for next year be not to exceed $1200.

The Council desires again to emphasize that the Journal has been published at a profit, because of its continued support by our advertisers. The importance of the patronage of these advertisers by our members cannot be given too much emphasis. The value of the Journal to every reader is apparent. This Association guarantees the financial integrity of the advertising columns of the Journal. For these reasons we feel we have a right to ask our members to give our advertisers their patronage, other things being equal.

These same remarks apply to the exhibits at the annual meetings. These exhibitors pay the expenses of the scientific sessions. They are carefully selected from among a large number of applicants by a special committee of the Council and they exhibit the annual improvements in medical and surgical technic in a very effective way. The exhibit this year is particularly interesting, and the Council desires to urge those in attendance to carefully study it.

The Council desires to express its cordial appreciation to those counties which have organized a Woman's Auxiliary. It urges every other county to organize as rapidly as possible. The report of this fine organization indicates that in the few years since the Crab Orchard meeting, at which it was developed, it has secured a larger membership than this Association did in its first forty-nine years. Its state officers and the officers of its county organizations have displayed a commendable zeal in its work, and the Council asks that it be authorized to make such expenditures as may be necessary to give it every possible aid for the coming year.

During the year Hygeia has received many more subscriptions in the counties where the Auxiliaries are organized than ever before. During the coming year an attempt will be made to secure 5000 more subscriptions to this important publication of the profession in Kentucky. The Council urges that in every county the wives, widows, mothers and daughters of physicians be organized into an active club which will be continually doing things for the welfare of the state.

During the year the Council has given certain definite amount of space to the Woman's Auxiliary in the pages of the Journal. The cost of printing for this space has been defrayed by one of our members, and it has not caused any reduction in the number of pages of scientific material, nor has it increased the cost of the Journal for the Association.

Our county societies are meeting with greater regularity and are showing a greater interest in the organized work of the profession than they have for many years. Councilor district associations have been organized in a number of districts and are doing a valuable service. The Council wishes to emphasize the importance of the preservation of the organization and the integrity of the work of the county societies themselves, regardless of what interest may be developed at meetings of groups of counties. The leaders of the professions will always attend medical meetings anywhere, because they recognize their value, but it is essential that the affairs of each county society shall be under its control all the time.

It is gratifying to the Council to see that the better element of the medical profession is refraining from unnecessary surgical operations.

We are also gratified that members of the profession entering the various specialties in medicine are spending a longer time in their preparation and study for such a career and we believe that physicians should not announce that they limit their practice to a particular specialty until they have attained such a degree of education as will entitle them to membership in the learned societies of their proposed specialties.

Signed by order of the Council,
R. C. McChord, Chairman.

J. W. Kincaid, Cattletsburg: I desire to ask the Secretary if the Constitution and By-laws as printed in the last issue of the Journal are correct.

Secretary McCormack: Yes.

J. W. Kincaid, Cattletsburg: It seems to me that there must be an omission or an oversight. Chapter VII of the By-laws has reference to the Council. What is the Council? What makes the Council? Where is it authorized? We have one, it is true, and we do seem to function with one, but where is the authority for it in the Constitution? There isn't a reference to it in the Constitution. We only find reference to it in the By-laws.

Secretary McCormack: Article VIII in the Constitution.

LOUIS FRANK: Article VIII of the Constituiton says, "and Councilors shall be elected for terms of five years each."

J. W. KINCAID, Cattletsburg: But there is no authority for creation of it in the Constitution. We find the Constitution starting out with the purposes of this Association and its name, its composition, what members and delegates and guests shall constitute this society; then we come to the House of Delegates. Then we come to sections and district societies, then sessions and meetings and then officers.

LOUIS FRANK: Section 1 there provides for that.

J. W. KINCAID, Cattletsburg: Article VIII in the Constitution has to do with officers. Section 1 says they are to be a President, three Vice-Presidents, a Secretary, a Treasurer, and eleven Councilors, but there is no place in the Constitution authorizing the Council to meet together as a body. There is one place where it says they shall elect a Chairman, but there is no place creating them before the By-laws say they shall elect a Chairman. It seems to be an oversight of some sort.

Finishing up the Constitution is the matter of how amendments may be made. The By-laws deal with membership, then annual and special session, then the general meeting, then with the House of Delegates, duties of officers, and then with the Council: All these other matters which we dealt with are specified in the Constitution, but the Council is not specified. What is the Council? I just happened to notice that, and it seemed to me to be an oversight.

In relation to some of the items of the report of the Council, they report, I believe, $300 appropriated for carrying out the provisions of the medical practice act.

SECRETARY MCCORMACK: The appropriation was $2400 and $300 was expended.

J. W. KINCAID: I would like to ask Dr. McCormack how much it costs to enforce the medical practice act.

SECRETARY MCCORMACK: Last year it cost somewhere in the neighborhood of $3600.

J. W. KINCAID, Catlettsburg: Does not the statute creating the State Board of Health require it to carry out the enforcement of the medical practice act?

SECRETARY MCCORMACK: It requires the State Board of Health and the county boards of health to enforce the medical practice act, but it provides no appropriation.

J. W. KINCAID, Catlettsburg: I don't recall any reference to a county medical society in the statute of the state.

SECRETARY MCCORMACK: It doesn't say county medical society; it says county board of health. There are numerous references to county medical societies in the statute.

J. W. KINCAID, Catlettsburg: It has no connection with the county board of health or with the enforcement of the practice act.

SECRETARY MCCORMACK: It has had in this state ever since there has been a medical practice act.

J. W. KINCAID, Catlettsburg: In the by-laws for county medical societies this state society lays upon the county medical society the enforcement of the medical practice act, but the infraction or violation of any of the provisions of the medical practice act, upon conviction, certainly carries a penalty, and it seems to me that the penalty is sufficient that the district and county prosecutors should enforce that act as they do all other violations of the law.

SECRETARY MCCORMACK: They do it just as they enforce all others. In some districts they enforce it well, in some poorly. That is what we are talking about.

J. W. KINCAID, Catlettsburg: I still don't see that the duty is incumbent upon the state medical society to contribute anything to the enforcement of the medical practice act when it is the duty of the state to provide the funds for the enforcement of its laws, and in a sense it is passing the buck to a group of individuals who happen to be organized as an association. That is not fair; it is not right.

The statute creating the State Board of Health I believe provides that any practitioner who has been licensed to practice under that act may be convicted of any crime involving moral turpitude, shall have his license to practice taken away. We have had a very blatant example of such a case under the Harrison Narcotic Act. He comes right back from the penitentiary in Atlanta and advertises his services to the community.

SECRETARY MCCORMACK: There are several such men and one woman in the doctor's county who have been so convicted and are at present before the board.

J. W. KINCAID, Catlettsburg: They have been in practice two years.

SECRETARY MCCORMACK: I know it, but you didn't call our attention to it until the other day. You were a member of the Council and of the State Board of Health and the Boyd County Board of Health, thoroughly familiar with the whole thing, and made no report to your county society or anybody until now.

J. W. KINCAID, Catlettsburg: Yes, they were notified and you were notified, and you were written a number of times and you didn't make any replies to the letters.

SECRETARY MCCORMACK: You did not notify me, and you have evidently been misinformed as to what has occurred.

Louis Frank, Louisville: I would like to ask if this report carries with it for the purpose of enforcing this medical practice act, only $1200.

Secretary McCormack: Not to exceed $1200.

Louis Frank, Louisville: Then I would like also to call attention to the fact that the amount appropriated for the Woman's Auxiliary must be fixed. This body has no right to appropriate an indefinite amount of money. Section 3 of Chapter IX of the By-laws says that all motions or resolutions appropriating money shall specify a definite amount, or so much thereof as may be necessary for the purpose indicated, and must be approved by the Council and House of Delegates.

I would ask the doctor to state in this report the amount that is to be given to the Woman's Auxiliary.

If this be done, I would move that this report be adopted, except that portion referring to the financial statement, which I think must necessarily be postponed until we hear from the Auditing Committee of the House of Delegates.

Secretary McCormack: The Council is required to report on the financial condition. It does not report any audit. It just reports and submits it here. That part of the report necessarily goes to the Auditing Committee. They simply submit their report, and the Auditing Committee will audit the Council's report just as it will any other report.

The appropriation for the Woman's Auxiliary was, I am sure, left indefinite advisedly. The Council, under amendment to the By-laws, adopted subsequently, is authorized to take any action which the House of Delegates is authorized to take during its sessions, but the Council has heretofore refrained from making any appropriations unless they were authorized in principle by the House of Delegates. The amount required by the Auxiliary has varied. I think it is all right to put a limit in, if it meets with the approval of the Council, and to make the limit $500. They never have spent nearly that much, and I don't think they will now, but I think that would be a reasonable amount.

Louis Frank, Louisville: I think the amount should be stated.

Secretary McCormack: Offer that as an amendment.

Louis Frank, Louisville: The Council has no authority to alter the By-laws of this Society.

Secretary McCormack: The Council didn't. The House of Delegates has amended it.

Louis Frank, Louisville: The House of Delegates did a very foolish thing if it took away from itself the power to pass on all appropriations. While I recognize the fact that the Council acts just as the House of Delegates would in between sessions, despite that the By-laws distinctly state that all appropriations must not only be o. k.'d by the Council, but by the House of Delegates also, and the Council cannot arrogate to itself functions which mean the approval of its own acts. That is absolutely unconstitutional, and it cannot by any means arrogate such measures to itself, or such rights to itself.

I have no objection to this. The point I make is this: that this House of Delegates cannot approve or appropriate an indefinite amount of money. I am willing to make that $500 or $400 or whatever the doctor thinks is right. It is only right that you shall proceed, however, in accordance with the Constitution of this Association.

If we pass this thing in toto with reference to auditing of these accounts, then the report of the auditing Committee doesn't mean anything.

I am talking about the action this House of Delegates takes with regard to the reports of its own committees.

D. M. Griffith, Owensboro: The Council is reporting here the advisability of doing certain things, and the function of the Auditing Committee would be to get these things after they are done and determine if they are done correctly.

Louis Frank, Louisville: I move that the report specify the amount of $500 to be appropriated by the House of Delegates for covering the Woman's Auxiliary, and that with this change the report be adopted, except in so far as it refers to the auditing of the accounts.

The motion was seconded.

Secretary McCormack: The report of the Council doesn't say a word about audiing the reports, except to report that the auditor has been employed and has audited the reports as published.

Louis Frank, Louisville: Then I would move that with that one change it be adopted.

W. E. Gardner, Louisville: I would like to say that the Council simply makes recommendations to the House of Delegates as to what they shall appropriate. We recommend that they shall appropriate an amount not exceeding $1200 for this purpose, or $1200 for that purpose. It is up to the House of Delegates to specify what amounts. We don't recommend any definite amount. We simply say not exceeding such-and-such an amount. In the report it simply calls attention to the auditing of the accounts.

Louis Frank, Lousville: Your Constitution provides that they shall specify a definite amount.

W. E. Gardner, Louisville: The House of Delegates does that, not the Council.

Louis Frank: But you are asking the House of Delegates to vote on the adoption of a resolution.

W. E. Gardner: No.

Louis Frank, Louisville: Then I move the resolution be received and filed.

W. E. Gardner, Louisville: We are recommending that the House of Delegates authorize an expenditure not exceeding such-and-such an amount.

President Gary: There is a motion before the House that the limit be placed at $500, which should come first.

Louis Frank: I will withdraw that motion with the consent of my second and move that the report be received and filed.

J. W. Kincaid, Catlettsburg: That does not accept?

Louis Frank: That does not approve it.

Dr. Frank's motion was seconded.

W. A. Jenkins, Louisville: I move that it be the sense of this House of Delegates that the President be instructed to extend a brief telegram to Mr. Forcht, thanking him for his legal services on behalf of the doctors of Kentucky.

The motion was seconded and carried.

President Gary: Is there any further discussion of this report?

J. W. Kincaid, Catlettsburg: Section 4 in regard to committees of the county health societies says that a Committee on Public Health and Legislation "shall consist of three members who shall be appointed annually by the President. It shall be its duty to enforce and support the sanitary and medical laws of the state in this county, to co-operate with the Committee on Public Policy and Legislation of the state association in all matters pertaining to legislation, and to prosecute quacks and medical pretenders in this county."

I move you, sir, that the State Association do not appropriate any sum for the enforcement of the medical practice act.

We will pass this procedure right up to the county societies to do what we have told them to do in the charter and by-lays that we give them to adopt. If they don't see fit to protect themselves, let them go without protection.

Louis Frank, Louisville: I don't know whether that is seconded or not, but I would say that it seems to me that would put us, so far as the medical practice act is concerned, in very much the same position as the Eighteenth Amendment would be without the Volstead Act. There would be no teeth in it at all. There wouldn't be any thing that we could do. It would be just as useless for us to put it up to the county society as it would for the federal government to instruct the State of New York to prosecute every violator of the Eighteenth Amendment. It woudn't be done.

Certainly I think this society ought to be able to help in the prosecution of those violating the medical practice act.

J. A. Orr, Paris: A point of order. There is another motion before the House. The other motion has not been voted on.

Secretary McCormack: The motion is that the report of the Council be received and filed.

President Gary: As I understand it, Dr. Kincaid offered an amendment.

J. W. Kincaid: No, I lost sight of your not having put that other motion.

President Gary: Is there any further discussion of Dr. Frank's motion? Dr. Kincaid's motion was not seconded.

W. M. Martin, Harlan: I think itwould be useless for the Chair to put Dr. Kincaid's motion, because I don't think we would have any protection at all. It seems to me by this time.

J. A. Orr, Paris: I rise to a point of order. There is a motion before the House, and we are discussing some other subject. Dr. Frank's motion is before the House.

W. M. Martin, Harlan: I beg your pardon. He asked if there was any discussion.

President Gary: I asked if there was any discussion of Dr. Frank's motion.

D. M. Grieeith, Owensboro: I call for the question.

President Gary: All in favor of Dr. Frank's motion that the report be received and filed say "aye," opposed "no." The "ayes" have it and it is so ordered.

Secretary McCormack: I hope someone will make a motion to appropriate not to exceed $1200.00 for the enforcement of the medical practice act and $1200 for the continuance of the work in medical organization, that is not to exceed $1200, and not to exceed $500 for the Woman's Auxiliary.

Louis Frank, Louisville: What is this $1200 for the promotion of organization? Is that for maintenance, or new organization?

Secretary McCormack: Both.

Louis Frank, Louisville: I make a motion that these sums as specified in the report of the Council which we have received, be voted upon by this society for the purposes recommended by the Council, including not to exceed $500 for aid to the Woman's Auxiliary. The motion was seconded.

J. W. Kincaid, Catlettsburg: I move to

amend that we have a report from them on the expenditure of the $1200 for the Committee on Organization as to their activities and what has been effected by that $1200, before we re-appropriate any more money. We haven't any more members than we had last year; we haven't as many. We have spent $1200.

SECRETARY McCORMACK: The report showed that they used only $300 of that. Twenty-four hundred dollars was appropriated for each of these two items last year and has been for the last three years. The $2400 item has been continued for the last ten years for the enforcement of the medical practice act. It has never all been expended for it. For the past three years not to exceed $2400 has been appropriated for the purpose of making more effective medical organization, and $1200 has been expended for the past two years. Before that time it was not found necessary to use that part of it, but for the past two years $1200 has been expended.

LOUIS FRANK, Louisville: What was that $1200 for?

SECRETARY McCORMACK: That is paid to Mr. Blackerby for salary for work he does for the State Medical Association in organization.

J. W. KINCAID, Catlettsburg: I think we are entitled to a report.

SECRETARY McCORMACK: He would have reported at some time about his activities, during the session.

PRESIDENT GARY: The motion before the House does not cover that poiint. It covers the question of $1200 for the medical practice act, $1200 for medical organization, and $500 for the Woman's Auxiliary.

LOUIS FRANK, Louisville: Is that what was for the Committee on Public Policy in the last report?

SECRETARY McCORMACK: The same thing.

PRESIDENT GARY: All in favor of Dr. Frank's motion say "aye," contrary. The motion is carried.

LOUIS FRANK, Louisville: I want to introduce the following motion: that there be a committee of five for the purpose of securing title to the McDowell home or house in Danville, Kentucky, for the purposes of converting it into a permanent memorial; that Dr. J. Rice Cowan, of Danville, be appointed Chairman of this Committee with power to select his own committeemen, but one of which shall be a member of the Woman's Auxiliary.

I understand and I am sure that this house after many years and after much long effort, can probably be secured, and if I have a second to this motion, I would like to ask Dr. Cowan to discuss it.

The motion was seconded.

J. R. COWAN, Danville: I object to two recommendations in Dr. Frank's resolution. One is that I be the Chairman of the Committee, and the other is if I am the unfortunate Chairman, that I have to select the balance of the Committee.

I would like to state to you something about the McDowell house. It seems to me that as long as I have been going to medical society meetings, no matter where, whether in New Orleans, Boston, San Francisco or New York, I have always been asked what the condition of the McDowell house was, and I was always ashamed to state. I have been ashamed to say that the organized profession of Kentucky has never taken any interest in it.

The question was raised some five or six years ago in the House of Delegates, and I was asked to buy the house, I suppose pay for it, and secure the title, but who was to operate it, whom it was to be turned over to, was never definitely outlined.

There is one feature in connection with this that can't be explained. The owner of that house will not sell it. That house is located in the worst, cheapest negro tenement section of the town. It has been occupied by negro tenants for, I suppose, forty or fifty years. It is in a run-down condition.

About 1924 when you were good enough to elect me president of this organization, I brought the matter up. At that time I approached the owner. There is no possible chance of buying or acquiring title to that property. It has been attempted time and again.

I approached the Chamber of Commerce of Danville and asked if there was any suggestion they could offer by which we could acquire title. They couldn't help me but a lawyer said, "We'll get a bill passed in the Kentucky Legislature of 1926 empowering the courts to condemn property for memorial purposes." That bill is a law today. I refered that matter to this organization in 1927. The legal counsel for the Kentucky State Medical Association decided immediately that that law woud never be held constitutional by the courts, and that we couldn't acquire property under a suit under that act. However, at least one suit in the State of Missouri has been brought under that law, which the Supreme Court of the State of Missouri has maintained, so that other legal opinion is to the effect that we could acquire title under that law.

If we are going to do it we must organize and create some perpetual corporation which can own that property and which can show to the courts that they are competent and capable of devoting that property to some memorial purpose, some perpetual memorial purpose. No single individual can acquire title to a property under that act. It must be a perpetual corporation. Either we must use this organization or some other existing organization, or we must create one. We must be able, if we are going into court on a suit of this kind, to be able to show exactly what is going to be done about it.

If that house is going to be used for a memorial, it is practically impossible to use it in its present situation. At the time when I thought things were coming to a head, I got a contractor to look at the house, find out if it could possibly be moved, and see what could be done about it. There is in the other end of the town of Danville, a small park which is called McDowell Park, which has the memorial monument erected by the Kentucky State Medical Association about 1877 or '79, and the contractor assured me that it was perfectly feasible to move that house and locate it on a portion of that park so we could create a memorial of it.

I am glad that this thing came up just at this time, because I think in a few years it will be impossible to do that, I think the house will be so dilapidated. It has been standing empty without tenants probably for a year and a half. If this society is ever going to do anything, it must do it in the next year or so.

I ask that you appoint some other Chairman. I shall be glad to co-operate, but I ask that you appoint some other Chairman of this Committee.

J. A. Orr: I should like to ask if there are any funds available to purchase the house.

Secretary McCormack: One of the members of the Association present has offered to provide the funds at whatever time that is necessary, and several of the medical organizations, notably the Southern Surgical Association, one of the greatest of our medical organizations, has given us assurance that at the proper time they will assist in making up the money.

The money for the maintenance of the place has never been discussed at all. I don't think it would be a matter of very great expense. We have a contract with the City of Danville to maintain McDowell Park and the monument in perpetuity, and they have always complied with that. One time several years ago we had a little row with them, but they have complied with it during our medical life time very actively, and the park has been kept in beautiful condition, and I think the citizens of Danville are as proud of it as we are.

That was the first monument erected to the memory of a physician in the United States. Of course, a great many have been erected since that time. I think that was one of the most notable occasions in medical history. Every man who reads the proceedings of the meeting at Danville in '79, under the chairmanship of our late lamented friend Dr. McMurtry feels proper pride as he reads the remarkable addresses delivered at that memorial. Present on that occasion were the President and several Past Presidents of the American Medical Association, and addresses that were immortal, were delivered under the inspiration of the history and story of this great man.

I am very happy to say to the Association that the Council arranged this afternoon for the unveiling of the monument to McDowell. The model of the monument was presented to me personally by the sculptor, and it is now in Frankfort in our possession, and that will be unveiled immediately following the meeting of the Southern Medical Association in November. On that same occasion the Southern Medical Association has arranged for a motor trip to Danville, and following that a trip to see the house. I know we all share Dr. Cowan's humiliation.

Whatever it is necessary to do I am in favor of doing, because we ought to acquire that property while it can be acquired. If it can be moved to the park, that would be an ideal solution of the problem. Wouldn't it be possible to get that man to sell us the house and keep the lot?

J. R. Cowan, Danville: I have tried to explain that plan to a good many lawyers.

D. M. Griffith, Owensboro: Approximately what would be the price of condemnation proceedings for the house?

J. R. Cowan, Danville: For the house possibly $1500.

D. M. Griffith, Owensboro: Can you condemn the house without the property?

J. R. Cowan, Danville: I t would be possibly $3,500 or $4,000 I think, to move the house.

President Gary: Would that be the moving and the remodeling?

J. R. Cowan, Danville: No, the moving.

Louis Frank, Louisville: The doctor says that to be abe to condemn the property for memorial purposes it would be necessary to create a corporation in perpetuity. I think that under the Constitution of this Association, it would be necessary to make a change so the house would be under the care of this Association.

I would suggest that we request the Secretary to look this over and, if necessary, to provide an amendment which would give us that power. I think by all means this Association ought to have the power of owning property.

Secretary McCormack: It has, under its charter.

Louis Frank, Louisville: The charter can be amended very easily.

Secretary McCormack: The charter gives it authority to acquire and hold property and to incur indebtedness.

J. A. Orr: It seems to me there might be question arise as to the location of this house and whether or not it should be moved. While I realize that the park would be much more suitable as a site, doesn't the location have some sentiment connected with it? We could buy a few of those negro shacks close to it for a good deal less than we could move the house. It seems to me to have the house right where it is is what we want.

D. M. Griffith, Owensboro: How would it be for this Association to take voluntary contributions to handle this thing?

Secretary McCormack: One of our members authorized us to make whatever expenditures were necessary and he would meet the expenditure. I assumed (I didn't have the specific statement) that he would expect the scientific organizations to bear their share of that expenditure afterward, but that the money would be advanced as soon as it was necessary, to take care of any immediate expense.

President Gary: The money would have to be raised before you could start any condemnation proceedings.

Louis Frank, Louisville: You would have to have a permanent corporation, also.

J. R. Cowan, Danville: Not only that, but you have to offer a price for it.

President Gary: The resolution offered by Dr. Frank a few minutes ago asked that Dr. Cowan be Chairman of that Committee, he to select his other committeemen. I am going to ask him to confer with the President, Dr. Hanes, in selecting that Committee, if the motion is carried, and report back to us at the next meeting, a regular plan, if possible, for us to adopt.

Dr. Frank's motion was carried.

R. E. Smith, Henderson: Dr. Frank, has that Committee power to act?

Louis Frank, Louisville: That Committee would have no power to act. I assume it would recommend probably during this meeting what should be done. It would be necessary to effect a permanent corporation.

R. E. Smith, Henderson: Unless they have power to act they can't do very much, and it will just hang fire as it has been hanging for the last six years.

Louis Frank, Louisville: I should say that under our incorporation articles, as the Secretary says we may, we could form such a subsidiary corporation that would be given the power to act.

R. E. Smith, Henderson: May I make an amendment to the effect that the Committee have the power to act?

Louis Frank, Louisville: Surely, I will accept that.

Secretary McCormack: I presume that would necessitate an appropriation.

Louis Frank, Louisville: I should not assume so at this time.

President Gary: The Committee probably can make a little more definite report by Thursday morning about the amount of the appropriation.

Louis Frank, Louisville: I offered this afternoon an amendment to the Constitution. I would like the permission of the Association to withdraw that amendment and offer in its place the following substitute:

Amendment to Article X of the Constitution: "That Article X of the Constitution be amended by the insertion in Line 9 as printed in The Journal, following the word 'vote,' the words: 'Such vote shall be by a mailed ballot to be furnished each member by the Secretary, such ballot to be marked and returned within thirty days.' "

Secretary McCormack: That is entirely satisfactory, because that will carry out the procedure. Of course, we can amend that next year. I believe it ought to say "the last known address of each member."

The meeting adjourned at nine forty-five o'clock.

Third Session—September 18.

The meeting was called to order at eight o'clock by President W. B. McClure.

President McClure: The House will be in order, and the Secretary will call the roll.

Secretary McCormack called the roll.

Secretary McCormack: Mr. President forty-seven, a quorum are present.

President McClure: There being a quorum present, the first matter in order is nominations for the office of President of this Association.

H. H. Hunt, Mayfield: Mr. President and Fellow-Doctors. Three years ago at Owensboro I had the privilege and honor of presenting the name of Dr. J. T. Reddick of Paducah for the presidency of this Association. At that time he was defeated by one vote, by one of Kentucky's most illustrious sons, Dr. Blackburn of this city. I said then, and I wish to repeat now, that Dr. Reddick is one of the most distinguished physicians, one of the most lovable companions the medical profession has ever produced. He has at all times affiliated with the medical association. He has been a member of the A. M. A.

for over forty years, a member of this Association for over forty years. He has been a member of the Southwestern Medical Association since its organization, and a member of his own county society since its infancy. He has been President and Secretary of the Southwestern Medical Association; he has been President and Secretary of his own county society, and he is today the active Secretary of his own society, which is the best society in the State of Kentucky except my own.

I merely mention these facts to show you that he is no common clod-hopper, that he really in one sense of the word is one of the ambassadors as well as the home-keeper of the medical profession. He is one of the most lovable men that I know in the State of Kentucky, and today he is standing upon the mountain of fame.

I wish to call your attention to the fact that he has been in the active practice of medicine for over a half century. He has lived the biblical three score years and ten, and while the years have been kind to him, he has the twinkle of the eye, the rosy cheek, the bloom of young manhood; he is as young as I am. Today he is standing upon the mountain of fame with his back turned toward duty and service well done, with his eyes turned toward the setting of the evening sun, dreaming dreams of the days that are to come.

As the delegate from Graves County, I desire to place in nomination, I was just thinking about nomination; I am not going to nominate him; I am just going to put this before the House. I was just thinking how nice it would be and how fitting it would be, not only to nominate him, but that we elect him the President of this Association by acclamation. As the delegate from Graves County, I want to present the name of J. T. Reddick of Paducah, Kentucky, to be elected by acclamation.

J. A. Orr, Paris: I rise to second the nomination of J. T. Reddick. We seldom give ourselves the privilege of honoring those to whom all honor is due at the most opportune time; we are rather inclined to procrastinate until the invisible hand of death prevents us from paying our just tributes except in memoriam to the immortal dead.

For many years this man has gone in and out amongst a large clientele, spreading the gospel of good cheer and sunshine as well as alleviating various ills to which the human flesh is heir. In times gone by he has typified that splendid ideal of an altruistic profession of which we are all proud. It matters not into what diversified channels our various specialties have led us, yet there dwells within us that feeling of satisfaction when we hear his praises sung—the family doctor.

Yet, Mr. Chairman, this man has not only upheld these splendid ideals of the past, but he is found in the vanguard of modern progressive medicine, and he has ever been found there. You can look over the records of this society and you will find that he has always been a regular attendant upon these meetings, ever ready to listen and learn as well as to give unto others the benefit of his own rich experience.

He has always been ready and qualified to give unto those who have sought his counsel and advice, the best that modern scientific medicine has had to offer, a student, if you please, well worthy of emulation.

I say, Mr. Chairman, that this is a most opportune time to honor such a character as this, one who has linked a glorious past with a brilliant present, and it seems most fitting that we should add one lustrous ray to the sunset of such a career. (Applause.)

President McClure: Are there any other nominations?

Harry Frazier, Louisville: I move that if there be no objections, nominations be closed and Dr. Reddick be unanimously elected by the Secretary casting one ballot.

The motion was seconded.

President McClure: Do I understand that the Secretary be instructed to cast one ballot for Dr. Reddick? That is not in order. You can move that the Secretary cast a ballot.

Harry Frazier, Louisville: It all means the same.

The motion that the Secretary cast a ballot was carried unanimously.

Secretary McCormack: In order to preserve the inviolability and secrecy of the ballot, I have the very distinguished honor of casting the ballot of the House.

President McClure: The ballott is cast for Dr. Reddick. (Applause.)

The Chair will appoint a committee consisting of Dr. Hunt, Dr. Stilley and Dr. Reynolds to escort the President-Elect to the House.

Nominations are now in order for First Vice-President. I hope you will elect Vice-Presidents that will attend. I have worked here day and night, and I have only gotten sight of one out of three Vice-Presidents.

R. C. McChord, Lebanon: Mr. Chairman, I desire to place in nomination a man who is known to this Association, who has been a consistent member ever since he joined the medical society, Dr. J. L. Atkinson of Campbellsville. I nominate him for First Vice-President.

A. L. Bass, Louisville: I second the nomination.

W. E. Gardner, Louisville: I move the nominations be closed and the Secretary be instructed to cast a ballot for J. L. Atkinson as First Vice-President.

Secretary McCormack: Permit me to rise to a point of order and get the House straight on the matter. A ballot means that the vote shall be secret. The Constitution and By-laws provide for secret ballots. Of course, where it is unanimous it is obvious that the ballot will be cast for a particular candidate, but it must be cast as a secret ballot and not instructed to be cast for some individual.

President McClure: Do you accept that interpretation? Your motion, then, is that you instruct the Secretary to cast a ballot for First Vice-President.

The motion was seconded and unanimously carried, and the Secretary cast the ballot.

J. A. Orr, Paris: I rise to a point of order. The Constitution does not provide for any First Vice-President. It provides for three Vice-Presidents.

President.. McClure: I inadvertently said First Vice-President. I should have said one of three Vice-Presidents.

The first one of the three elected, according to the ballot of the Secretary is Dr. Atkinson.

The committee appointed by the President escorted J. T. Reddick into the House.

H. H. Hunt, Mayfield: Mr. President and Fellow-Doctors: It is my privilege to introduce to you not only the handsomest and youngest, but one of the finest doctors Kentucky ever produced, Dr. Reddick. (Applause.)

J.T. Reddick, Paducah, Gentlemen, you fill my heart with gratitude. I thank you from the bottom of my heart. (Applause.)

President McClure: Nominations are in order for another Vice-President.

W. E. Gardner, Louisville: I should like to nominate J. A. Orr, of Paris.

President McClure: Delegates are not eligible.

W. M. Martin, Harlan: This is the first time in twenty years that Barnett Owen of Louisville has not been a delegate, so I rise to place his name in nomination.

J. A. Orr, Paris: It seems to me it has always been the custom to elect a vice-president from each section of the state. I don't think it is a good policy to have both of them from one place.

Barnett Owen, Louisville: I quite agree with Dr. Orr, and for that reason I would like to withdraw my name. Give it to some other part of the state.

W. H. Martin, Harlan: I do not wish to withdraw his name.

President McClure: The question before the House is the election of Vice-Presidents No. 2 and No. 3. There is a motion to combine the two and elect them at once.

J. A. Orr, Paris: I move you that the Vice-Presidents be elected one at a time.

President McClure: It does not require a motion for that.

W. M. Martin, Harlan: I again nominate Dr. Barnett Owen of Louisville.

Seconded by Smithfield Keffer of Grayson.

C. C. Howard, Glasgow: I nominate C. C. Turner of Glasgow.

R. T. Layman, Elizabethtown: I rise to a point of order. A motion was made by Dr. Howard, which I seconded, that two ballots be cast, and until that is disposed of nothing else is before the House.

President McClure: The point of order is sustained. There is a motion before the House to elect two Vice-Presidents.

J. A. Orr, Paris: I move you that these nominations be laid on the table and we elect the Vice-Presidents one at a time.

The motion was seconded.

Harry Frazier, Louisville: I rise to a point of order. If there is any objection to that motion to elect two, that is all that is necessary.

President McClure: The point of order sustained. The question is the election of a Vice-President.

V. G. Kinnaird, Lancaster: I would like to nominate Dr. Carl Norfleet of Somerset.

President McClure: There are three nominations before the House: Dr. Turner, Dr. Owen, and Dr. Norfleet.

W. Barnett Owen, Louisville: To simplify matters, I wish to withdraw my name.

President McClure: You will have to confer with your nominator before you can do that.

John W. Scott, Lexington: Can't a man withdraw if he doesn't want to serve?

-. B. Bradley, Lexington: It is very embarrassing to Dr. Owen to be elected at this meeting. While he is not a delegate, I feel Dr. Owen feels that he is ineligible. I sympathize with him.

C. W. Shaw, Alexandria: I would like to place in nomination the name of J. M. Blades of Butler.

C. A. Vance, Lexington: I would like to nominate Dr. Willmoth of Louisville.

A. L. Bass, Louisville: I move the nominations be closed.

The motion was seconded and carried.

John W. Scott, Lexington: I don't see why we can't instruct the Secretary to cast two ballots. I move to so instruct the Secretary.

The motion was seconded.

W. M. Martin, Harlan: I move that the Secretary be instructed to cast a ballot for Barnett Owen as Vice-President.

President.. McClure: That is out of order. The fact that more than one person was nominated requires the use of the ballot. The two persons receiving the highest number of votes will be elected.

Secretary McCormack: No, the one elected must get a majority of all the votes.

President McClure: I will appoint as tellers, Dr. Kinnaird and Dr. Reynolds.

W. H. Martin, Harlan: I object to Dr. Kinnaird's being one of the tellers because he nominated one of the candidates.

President McClure: Objection overruled.

C. A. Vance, Lexington: I move you that this body suspend its rules and vote for two men at the same time, and if they both receive a majority there is an election.

President McClrue: As long as objection has been made to elect the two at once, it can't be done and the motion will not be in order. Vote for one man on one ballot.

W. M. Martin, Harlan: If I understand the By-laws correctly, I don't think a man is eligible to be elected to office unless he is here. Is that right?

President McClure: That is true.

W. M. Martin, Harlan: Then Dr. Norfleet is not eligible; he is not here.

President McClure: If Dr. Norfleet has been present at the session that will make him eligible; whether he is here this morning or not.

Dr. Norfleet, I find, has not been present at this session and is therefore ineligible to be voted for. The ballots were cast.

V. G. Kinnaird: The highest vote was Owen, 24. Then Willmoth 7, Turner 13, Blades 5, Owsley 1.

President McClure: The hindmost man is dropped. The first three are the ones that count. Dr. Owen, Dr. Turner and Dr. Willmoth are the candidates.

The delegates balloted again.

President McClure: The ballot shows the election of Dr. Barnett Owen. (Applause.)

E. B. Bradley, Lexington: Who was the second man?

President *McClure*: Dr. Turner.

E. B. Bradley: Are nominations in order for the third of the Vice-Presidents?

President McClure: Yes.

E .B .Bradley, Lexington: I should like to nominate Dr. Turner.

C. A. Vance, Lexington: I second the nomination and move the nominations be closed and the secretary cast a ballot for Vice President.

The motion was seconded and unanimously carried, and the Secretary cast a ballot for Vice-President.

President McClure: The Secretary casts a ballot for Dr. Turner, and the three Vice-Presidents are elected.

The time having arrived for the resumption of the regular program, the Chair will appoint Dr. Barnett Owen to preside over the Surgical Session, and those desiring to attend that meeting will repair to their place of meeting.

My faithful Vice-President Dr. Gary will preside over the Medical Session.

The next order of business is the nomination of two delegates to the American Medical Association to succeed Irvin Abell and A. T. McCormack.

Louis Frank, Louisville: I move that both these gentlemen be reelected as delegates to the American Medical Association, and that a ballot be cast for the delegates.

The motion was seconded and carried unanimously, and a ballot was cast.

President McClure: The Chair is pleased to announce the election of Dr. Abell and Dr. McCormack.

Next is the nomination of an Orator in Surgery.

Louis Frank, Louisville: I rise to place in nomination a gentleman for Orator in Surgery representing a branch of the profession that has served longer than any, probably, in the line of specialism, and one which has not received, as specialists, a great deal of recognition from this House for the Oration in Surgery. I should like to place in nomination the name of S. B. Marks, of Lexington, as Orator in Surgery for next year. (Applause.)

V. G. Kinnaird, Lancaster: I second the nomination.

J. A. Stucky, Lexington: I would like to second the nomination. I think it is a fitting honor, and this is the psychological moment to have an otolaryngologist as our Orator in Surgery.

President McClure: Are there any other nomination?

John W. Scott, Lexington: I move the nominations be closed and the Secretary be instructed to cast a ballot for Orator in Surgery.

The motion was seconded and unanimously carried, and the Secretary cast a ballot.

President McClure: The Secretary casts the ballott for Samuel B. Marks, of Lexington as Orator in Surgery.

Nominations are in order for Orator in Medicine.

S. C. Smith, Ashland: The gentleman

whom I wish to place in nomination is known only slightly to me, but most of you recall the distinguished gentleman who welcomed us in behalf of the medical profession, a man who has practiced medicine for more than forty years. Without the knowledge of the people of Bowling Green that he would be placed in nomination, they have all told me that he was almost if not equal to Dr. Reddick as a lovable character. I wish to place in nomination B. S. Rutherford of Bowling Green for Orator in Medicine. (Applause.)

J. A. Orr, Paris: I move that the nominations be closed and the Secretary be instructed to cast a ballot for Orator in Medicine.

The motion was seconded and unanimously carried, and the Secretary cast a ballot for Orator in Medicine.

President McClure: The ballot is cast for B. S. Rutherford as Orator in Medicine.

Next in order is the election of a Councilor for the Second District to succeed Dr. Griffith. The election is for a term of five years.

Louis Frank, Louisville: I nominate D. M. Griffith to succeed himself.

J. A. Orr, Paris: I move the nominations be closed and the Secretary be instructed to cast a ballot.

The motion was seconded and unanimously carried.

Secretary McCormack: I have the honor of casting a ballot for Councilor for the Second District.

President McClure, Louisville: The ballot is cast for D. M. Griffith of Owensboro.

Next is election of a Councilor for the Fourth District.

C. A. Vance, Lexington: I nominate J. I. Greenwell of New Haven.

E. B. Bradley, Lexington: I move the nominations be closed and the Secretary be instructed to cast a ballot.

The motion was seconded and unanimously carried.

Secretary McCormack: I have the honor of casting the ballot of the House, Mr. President.

President McClure: The ballot is cast for J. I. Greenwell.

The next matter in order is the selection of the place of meeting in 1931.

J. A. Stucky, Lexington: Mr. President, at the last meeting of the Fayette County Medical Society, you were unanimously elected to come to Lexington for your next meeting. The latchstring is always hanging out, and it goes without saying that you will always be welcome.

In addition to that I have a letter from the Lexington Board of Commerce, which I desire to read to you.

"The Lexington Board of Commerce, representing the business and professional interests of this city, requests that you extend to the members of the Kentucky State Medical Society, convening at Bowling Green, a most cordial invitation to hold its 1931 annual meeting at Lexington.

"In extending this invitation we fully appreciate your requirements, and assure you that Lexington will offer you comfortable, convenient and economical hotel accommodations, adequate assembly, display and committee rooms, and every service which can be rendered to make your convention most successful. There will be no increase in hotel rates, and assembly and exhibition halls will be provided without charge.

"The Lexington Board of Commerce will be glad to help you in the physical make-up of your program; it will take care of your registration and will cooperate in arranging for your entertainment and recreation.

"We believe there are few cities in America which offer a more interesting setting for conventions than Lexington. We have many things to show here which are out of the ordinary .We offer one of the most gorgeous scenic regions in the country. highly developed stock farms and country estates, many points of entrancing historic, romantic and traditional interest. Our fine highways make these places easily accessible.

"Hoping you will act favorably on this invitation, and that your convention this year will be highly successful and enjoyable, we are

"Very truly yours,
"Lexington Board of Commerce,
"(Signed) Ed Wilder, Secretary."

We invite you to come to Lexington and we will be glad to see you.

President McClure: Are there any other invitations?

I hold in my pocket a telegram from a whole raft of people in Somerset, the Board of Trade and all the different societies, the Mayor, I think, and of course it is my duty to present them to you. They have ample hotel accomodations, and they promise a trip to Cumberland Falls.

W. H. Martin, Harlan: I move we go to Lexington.

The motion was seconded by several delegates.

E. B. Bradley, Lexington: I move the Secretary be instructed to cast a ballot.

President McClure: The Chair is going to reverse any precedent and decide that it is up to the House of Delegates to select their place of meeting. It is not an office, and therefore it does not have to be done by any secret ballot.

Dr. Martin's motion was unanimously carried.

PRESIDENT McCLURE: The next matter in order is the report of the Committee on Legislation and Public Policy. Irvin Abell is Chairman of that Committee.

REPORT OF COMMITTEE ON LEGISLATION AND PUBLIC POLICY

IRVIN ABELL, Louisville: Mr. President, possibly it would be better if I read this in paragraphs, because the Committee has considered the communication it received from the Daviess County Society in paragraphs.

"The Daviess County Medical Society has instructed its delegates to bring before the House of Delegates the following objections and desires which it has unanimously voted to sustain:

"1. We are opposed to public health employees practicing medicine or surgery for people able to pay for service."

The Committee on Legislation and Public Policy has carefully considered the communication unanimously adopted by the Daviess County Medical Society, and is in accord with the principles of its suggestions.

Paragraph 1. Your Committee is opposed to free service of any sort for those who are able to pay for the same. Such practices promote pauperism and are detrimental to the best interest of the people and profession. Every possible safeguard should be thrown around the practice of all clinics, whether given under public, philanthropic, or private auspices. Such clinics as have been held by the State Board of Health in Kentucky have been created with the approval of this Association and only operated in any particular county upon the written request of the County Medical Society, who pledge each of their members to certify the indigency of any patients who apply for treatment, and no others are treated at such clinics, and none without such statement signed by a member of the Association will be treated at these clinics.

"2. We are opposed to the establishment of more medical colleges in Kentucky.

"3. We are opposed to any activity which would tend to lower medical standards in our state."

Paragraphs 2 and 3. Your Committee approves the historic position of this Association as always, believing that the standards of medical education should be made higher and its curriculum more practical so that the standards may be maintained. We concur in the deprecation of any activity which would tend to lower medical standards in our state. We also believe that the establishment of more medical colleges is unnecessary.

"4. We are opposed to the State Board of Health permitting and sponsoring the practice of medicine by cults and undergraduates.

"5. We are opposed to all cults being permitted to practice their ideas in this state with lower preliminary educational requirements than are required of matriculants of medical colleges."

Paragraph 4 and 5. The practice of medicine is, of course, controlled by law. The State Board of Health is required to execute the statutes as they are enacted by the legislature. Certain cults are recognized by law, and when their graduates pass the examinations, the State Board of Health is required to issue certificates to them. Undergraduates are permitted to practice for limited terms when they have passed their sophomore examinations, provided they are located in rural districts and practice under the supervision of the members of the County Medical Society and with its consent. There have been no deviations from this law. Your Committee feels that there should be none, and urges that the same standards of entrance should be required of all applicants for license to practice the healing art in any branch.

"6. We desire the Legislative Committee of the Kentucky State Medical Association to consult the will of the medical profession on all proposed legislation of major importance to our profession."

Paragraph 6. The Legislative Committee has never taken part in any activity in the introduction, promotion or defeat of any legislation without the express instruction of the Association through its Council or House of Delegates. Our only activity in this regard has been through letters to the profession, which have gone to every member, and through appearances before the various committees of the legislature when it was assembled in Frankfort.

PRESIDENT McCLURE: You have heard the report. What is your pleasure?

LOUIS FRANK, Louisville: I move it be received and filed.

The motion was seconded.

W. E. GARDNER, Louisville: I would like to offer a substitute motion, that this report be adopted. I think just received and filed does not make the proper disposition of it.

LOUIS FRANK, Louisville: I accept that.

The motion that the report be adopted was seconded and carried.

J. A. STUCKY, Lexington: If I may have three or four minutes to read this, I would like to present something to the House of Delegates which I think we do not appreciate. Later on I would like the privilege of presenting it to the entire membership in the open session.

This letter is from President Braden of Transylvania University.

"I shall be happy indeed to have you present the matter of our library to the Kentucky Medical Association. I am having Mrs. C. F. Norton, our librarian, prepare a statement of the medical significance of that collection of books, which follows:

" 'Transylvania Medical College was founded in 1798. The board immediately authorized Dr. Samuel Brown and Dr. Frederick Ridgely to import books for the departure to the amount of $5000. An itemized bill for books sold to Dr. Brown totals seventy-seven pounds.

" 'Other foreign purchases were made and foreign journals subscribed for, all of which are preserved.

" 'The largest foreign purchase was made in 1821 by Charles Caldwell, M. D., of the faculty. The books were selected by him in Paris, "all the fathers of medicine," when private libraries were scattered by the French Revolution. This collection is the important basis of Transylvania's unrivaled library of historical medicine. In 1839 there was spent for medical books in London and in Paris the sum of $11,000. Dr. Caldwell's purchase amounted to $17,000, an enormous sum for that period.

" 'Through such professors as Dudley, Drake, Caldwell, Richardson, Constantine Rafinesque, "the most learned man in America," Elisha Bartlett, John Eberle, Nathan R. Smith, and others, a great library was gradually built up.

" 'There are today 10,000 volumes. The medical department closed with the war of 1860, hence all purchases were made before that date.'

"As I told you the other evening, we are definitely at work now attempting to erect a fireproof structure in which to house our 35,000 volumes, fully one-half of which is composed of precious books that could not possibly be replaced if anything were to happen to them. By the judicious use of one of our present buildings, we can erect this library for approximately $50,000. I should be delighted indeed to set a part of this library aside definitely for the medical men of Lexington, Kentucky and the world, so that they might come here and consult these precious documents of ours that have to do with the science of medicine. You are probably aware that there is no greater collection of books on historical medicine than those contained in our library. Men from all over the world come here now in order to consult them. This priceless collection is at present housed in a fire-trap. It would be an international disaster should these books be lost. It would not be a loss simply to Transylvania; the whole world of science would suffer; every doctor would lose that which could never be replaced.

"I am sending you a newspaper picture of our proposed building which will give some little idea of what the structure will look like when completed.

"Thanking you for your interest in this significant enterprise, I am,

"Very cordially yours,

"(Signed) Arthur Braden."

Europe knows more about that library than Kentucky does. That is our heritage. We are simply asking for appreciation of the fact that in that library of old Transylvania we are preserving and honoring our own rich heritage in medicine.

Irvin Abell, Louisville: I think those of us who have had the opportunity of visiting the library and familiarizing ourselves with its contents are only too well aware of the importance of preserving it. Men from all over the world come to Lexington to consult this library, and, as Dr. Stucky has justly said, the knowledge of the value of the books which are contained there in is possibly appreciated to a greater extent outside of our state than in it. Unless our personal attention has been directed to the nature and character of the volumes contained therein, we have been totally unaware of the priceless value of it.

I should like to offer this resolution:

"The Kentucky State Medical Association has always been interested in the preservation of the fine collection of medical books in the library of Transylvania University. We are gratified to know from the president of the University, through our ex-president, Dr. Stucky, that this priceless collection is soon to be housed in a fireproof building and is to be made available to the medical men of the world so they may consult them and profit therefrom. We pledge our support to the University in this splendid movement."

Louis Frank, Louisville: I move the adoption of the resolution.

The motion was seconded and carried unanimously.

J. A. Stucky, Lexington: Would it require the permission of the House of Delegates for me to read what I have just read to you to the general meeting, or would that be decided by the President?

President McClure: The President will be very pleased to wedge it in if we can possibly do it in the crowded program we have for the remainder of the day. Sometime during that program we shall be very pleased to hear from you, Dr. Stucky. We will now have the report of the Committee on Crippled Children. Dr. Barnett Owen is the chairman.

REPORT OF COMMITTEE ON CRIPPLED CHILDREN

"Outlining the accomplishments during the past year under the direction of the Kentucky Crippled Children's Commission:

"From October 1, 1929, to September 12, 1930, the Kentucky Crippled Children's Commission has committed to the hospitals for treatment 679 indigent crippled children. This number includes 376 new cases and 303 cases that have been previously treated and require a second operation or further attention, one of the chief problems of the Commission being the handling of cases that need frequent periods of hospitalization. The Commission has also furnished braces for thirty-eight new cases for whom hospital treatment was not necessary, in addition to braces that that have been repaired for a large number of old cases. Upon September 12, 1930, there were 214 Commission cases in the orthopedic wards of hospitals in Ashland, Lexington and Louisville; 2309 indigent cripples have been treated by the Commission since the beginning of the work in 1925.

"From April 23 to August 27, thirteen clinics were held in the following localities: Corbin, Carrollton, Pineville, Mayfield, Henderson, Jackson, Beattyville, Hazard, Owensboro (2 clinics), Elizabethtown, Pikeville, and Paintsville. Forty-four counties were included in these clinics, which means that intensive field work in each county was done by the Commission's nurses during the past five months. Every dismissed case in each county was visited personally, in addition to letters from the office which were sent to the parents, urging that the children attend the clinics for purposes of re-examination and follow up. A total of 952 children attended the clinics, including 328 old cases and 624 new cases. The old cases represented 45.5 per cent of those asked to attend the clinics, since many cases in each district have been permanently discharged as having attained the maximum correction, and require no further follow-up. As an immediate result of the clinics, 101 cases were sent to the hospitals and 370 were placed on the Commission's waiting list for attention. A number of these cases are being admitted to the hospitals each week. From the clinics, 66 old cases were discharged as permanently corrected, 157 needed further treatment or new braces, and 105 were pronounced as doing well, but should be kept under observation and examined periodically.

"In an effort to discover the best follow-up method for old cases, the experiment of a quarterly clinic is being tried in Owensboro, with the assistance of the Owensboro Rotary Club and the Mary Kendall Home. Two such clinics have been held, and it is gratifying to note that a larger number of old cases attended the second clinic than the first. If the Owensboro quarterly clinic proves successful the Commission will consider the possibility of establishing similar clinics in other districts.

"Diagnosis of the cases examined at the summer's clinics showed the following deformities present:

"Classification of Deformities:

Infantile paralysis	240
Spastic paralysis	75
Other forms of paralysis	50
Congenital deformities	184
Bone tuberculosis	62
Injuries	51
Osteomyelitis	58
Scoliosis	32
Arthritis	28
Rickets	25
Non-orthopedic and mental	80
Miscellaneous	67
Total	952

"Depressing reports have been brought in by the Commission's field workers as they return from their districts. Undoubtedly the demand upon the Commission will be much greater during the coming year on account of the drouth and unemployment situation throughout the state. The nurses report homes without food and children without clothes, and the investigations made show that families who formerly have been able to pay a part on braces and corrective shoes are unable now to help even that much. And families have come to the clinics begging that their children be admitted to the hospital as there was no food for them at home. Some very shocking cases of malnutrition were seen at the clinics.

For the success of its work, the commission is greatly indebted to the wholehearted and generous support given by the members of the medical profession throughout the state, and the county health departments under the direction of Dr. McCormack and the State Board of Health. Intense interest in the clinics is always shown by the local doctors, and the cooperation of the county health departments is invaluable in locating visiting and follow-up treatment of the cases. The Commission has found that where a good county health department is in existence, greater improvement is noted in the condition of cases dismissed from the hospitals, since the county nurse will impress the parents with the necessity of keeping braces upon the child and bringing him back to the doctor for frequent examination.

"The Commission is also indebted to the railroads and to the civic clubs in the various localities where clinics are conducted, for their co-operation. The clinics are always sponsored by a civic club, whose committees furnish transportation for the crippled children on the day of the clinic and provide a free lunch for all who attend the clinic. Without the interest shown by the organizations in each community the Commission's work would be impossible of accomplishment to the same degree.

"Kentucky has gotten a substantial start, but a tremendous job confronts us. Many thousands of indigent crippled children are in the state at present, new cases arriving at the rate of about 160 per year under normal conditions, which is vastly increased by any epidemics that occur from time to time. Another great responsibility the state owes to its crippled children is their education and special training which is necessary to make them self-supporting.

"The job is endless, but unquestionably is worthy of the physical and mental effort on the part of the medical profession and the state for the financial investment which is productive of many dividends.

"Respectfully submitted,
"John D. Trawick
W. M. Brown
W. Barnett Owen, Chairman."

I move the adoption of this report.

The motion was seconded and carried.

President McClure: We will now have the report of the Medico-Legal Committee, J. D. Lutkins, Louisville, is the Chairman and I want to take this opportunity of commending its work.

Report of the Medico-Legal Committee

"Number suits on hand October 1, 1929	15
Number suits filed October 1, 1929 to September 15, 1930	13
Number of suits threatened, but no suit brought	6
Number of suits tried before jury	4
Number of verdicts in favor of physicians	4
Number dismissed on peremptory instructions	2

"This makes a total of six cases that went to the jury and 100 per cent decided in favor of the doctor.

"Number of suits compromised by the Medical Protective Association	Several
Number of suits compromised by the Kentucky State Medical Association	None
Number of suits dropped	2
Number of suits taken to court of appeals (Decision in above case in favor of the doctor)	1
Court of appeals decision adverse to physician	None
Number of cases pending to date	19

"There are at least two cases against members of the society in which no information whatever has been given to the Committee, consequently we are powerless to act."

Respectfully submitted,
J. B. Lukins, Chairman."

I move the adoption of that report. The motion was seconded and carried.

President McClure: We will now have a report of the Committee on Post-Graduate Course, Dr. Philip Barbour, Louisville is the Chairman.

Report of the Committee on Post-Graduate Instruction

The Committee on Post-Graduate Instruction begs leave to report that a two-weeks course was given from July 7 to 19. Quite an elaborate course of lectures was arranged and very faithfully carried out by the Louisville members of the Association. The attendance was 22, a number being from the adjacent states of Indiana and Illinois. Those attending were very enthusiastic in their praise of the character of the work. It was believed that the small attendance was due to the financial condition in the state.

"The Committee recommend that this work should be continued each year. They believe a larger attendance can be secured by having the course held coincident with the graduating exercises of the University. They would like to plan to utilize the alumni who return for the commencement, and other publicity methods, which they believe will give increased attendance. Many of the lecturers are willing to give even more hours of instruction to the course, and we believe it can be made increasingly more valuable to the doctors of the state.

"Respectfully submitted,
"Philip F. Barbour,
George A. Hendon,
John Walker Moore."

Louis Frank: I move the adoption of the report. The motion was seconded and carried.

President McClure: I was instructed at the meeting of the Council last night to recommend that an appropriation of not to exceed $500 be authorized for the necessary expenditures in connection with the erection and unveiling of the McDowell statue at Frankfort in conjunction with the Southern Medical Association during its session.

Louis Frank, Louisville: That does not impair our finances, does it?

Secretary McCormack: Oh no.

Louis Frank, Louisville: I move you that the recommendation of the Council be concurred in.

The motion was seconded and carried.

PRESIDENT McCLURE: The House requested me to appoint a committee with regard to McDowell house. I wish to appoint C. A. Vance of Lexington; Louis Frank, of Louisville; Virgil Kinnaird, of Lancaster, and an appointee from the Woman's Auxiliary to serve on that committee.

SECRETARY McCORMACK: Mr. President, I move that that committee be a committee of the House of Delegates.

The motion was seconded and carried.

PRESIDENT McCLURE: Report of the Auditing Committee.

REPORT OF THE AUDITING COMMITTEE

B. F. ZIMMERMAN, Louisville: The Auditing Committee has reviewed the accounts of the Association, and verifies them and also verifies the Treasurer's report published in the Journal.

V. G. KINNAIRD, Catlettsburg: I move the report if the Auditing Committee be adopted. (Seconded).

The motion to adopt the report of the Auditing Committee was carried.

PRESIDENT McCLURE: Is the Chairman of the Committee on Reports of Officers ready to report?

REPORT OF THE COMMITTEE OF OFFICERS

J. A. ORR, Paris: "We your Committee, have carefully gone over the reports coming under our consideration. We find these reports to be full and comprehensive, they having already come before the House of Delegates and been considered by that body. However, we wish to call attention to the opening paragraph in the report of the Council, which we quote:

"'It is gratifying to report that in spite of the unprecedent economic depression, the paid membership at this time is 1769 as against 1801 last year. As a number of those who are delinquent have signified the intention of paying their dues, our membership will remain approximately the same as for the past several years. When it is considered that there are 2650 physicians licensed in the state, a large number of whom are not in active practice, we think this is an excellent showing.'

"We do not believe that it is a matter of gratification that our membership has fallen off from 1801 to 1769 during the past year, especially when there are 2650 licensed physicians.

"Further, we do not believe that the economic depression is the cause of this, as we do not believe any doctor has been so hard hit that he could not pay his dues, but that his failure to do so has been due to the usual negligence on his part as well as that of the secretary of his county society.

"There is always a percentage of practically all organizations who do not pay their dues until the secretary runs them down and collects it. Our society is no exception.

"It might be well for each of the Councilors to confer with the secretaries of the various counties in his district and encourage them to report the number of licensed physicians in each county, those who are retired, etc., so that we may have an accurate statement of those who should belong to the society.

"As a rule, some influence other than local in a lagging organization will tend to stimulate it.

"Respectfully submitted,
"H. H. Hunt
J. A. Orr, Chairman."

W. E. GARDNER: I move the adoption of the report.

The motion was seconded and carried.

J. A. ORR, Paris: As Chairman of this Committee it seems to me that we do a lot of things in the House of Delegates that are time-consuming and are of no value to anyone. As far as I have been able to see, and especially as far as this report is concerned, it does not amount to a row of pins. Each one of these reports of officers has been reported here and considered by the House of Delegates, discussed and passed. This thing is just a perfunctory thing and doesn't amount to anything; it is just a time-consuming thing. I move you that this Committee be abolished in the future.

SECRETARY.. McCORMACK: Permit ome to discuss that proposition. It has been the custom in the American Medical Association and in all of the state associations to have a Committee on Reports of Officers because the officers are the agents and instruments of the House of Delegates; the House of Delegates is the body in authority, and while we have been fortunate that the reports of our officers have met with the approbation of the House, if at any time they shouldn't meet with its approbation the House should always have the machinery in hand to take action in regard to the matter. At times, as at this time as Dr. Orr reports, his Committee has had very little to do.

In the American Medical Association and in some of the state associations, and from time to time the situation is bound to arise in this Association, the House of Delegates does desire to take cognizance of the action of its employees and of its elected officials and to criticize them.

At the last session of the House of Delegates of the American Medical Association, the President in his address made certain very specific recommendations that were disapproved by the House of Delegates. That might happen at any time, and I believe the House should retain the machinery to take charge of the situation at any time it desires.

Louis Frank, Louisville: I am very much of the opinion of the Secretary. I think this is really an important committee, and I don't know whether it is customary in this society, though certainly it seems to me that with this Committee in existence it should become the duty of the officers of the Association to hand in to this Committee a written report, or have their reports all written and made up so that this Committee can consider them in between the convening of the meeting and the last day, when it makes its report.

President McClure: The Council at its meeting last night arranged that that be done hereafter.

Louis Frank, Louisville: I think this is one of the most important committees that this House has. It remains, first, for this Committee to determine just exactly what action shall be taken on the reports of the various officers, and if they do their duty, they make recommendations to us and these reports are not just simply passed and everything accepted. I think most House of Delegates and most legislatives bodies of this kind are very apt simply to receive the reports and let them go as such. It is true that we all have confidence in our officers and have every trust in them, but at the same time, there is a tendency on the part of all bodies of this type not to inquire closely into their own affairs and simply to accept what the officers say and pass all motions and all recommendations that they make.

If this Committee functions properly, it should carefully look into these matters and be prepared to recommend to us what should be done. We cannot, in the hurry and the short time we have at our disposal, consider carefully all recommendations that are made by the officers.

I would therefore be very much in favor of continuing this Committee, and will therefore vote against the doctor's motion.

R. T. Layman, Elizabethtown: I think this is just a brief way of getting things before the members, and it informs us better than we can inform ourselves. I am opposed to the motion.

J. A. Orr, Paris: The reason I did that was that these things have all been considered and adopted; they are passed by the House of Delegates already and have been discussed fully.

The question was called for, Dr. Orr's motion was put to a vote, and was lost.

L. T. Minish, Frankfort: I move that the report of the Council received at a former meeting be adopted.

Louis Frank, Louisville: I will second the motion. I was instrumental in having that report held up, I will say for Dr. Orr's benefit, until we did get the final report. The motion was carried.

President McClure: Is there any new business to come before this body?

Louis Frank, Louisville: I would like now to move you that all such reports as are contemplated being reported upon by the Committee on Reports of Officers be in the hands of that Committee at the convening of this House, and that such reports as they require to study be held up until their reports are made.

The motion was seconded and carried.

Louis Frank, Louisville: I introduced an amendment to the rules the other day which I now desire to withdraw. After being present at this delightful place, I think that maybe some of the reports and complaints that have come to my own ears since the argument was had which put me forward to make this motion to amend the Constitution with reference to our place of meeting, have probably been erroneous.

In withdrawing this resolution, I also want to say that I have never attended a meeting which has been held in a place that is more adapted and more suitable to our conventions than the place we are meeting in at present. I think we have been most hospitably entertained here, the arrangements have been most excellently adapted to our purposes, and I wish also in withdrawing this motion to move, sir, that we extend a vote of thanks to Prof. Cherry in charge and to those who have lent themselves to our delightful entertainment, and thank them for their hospitality. I wish to include in that motion the people of Bowling Green.

The motion was seconded and unanimously carried.

President McClure: The amendment to the By-Laws offered by Dr. Frank has been withdrawn.

Louis Frank, Louisville: There is another amendment that I want to introduce, to lay over until next year: that Chapter III, Section 4 of the By-Laws, which refers to the time given for reading of papers, be amended by the addition of these words, "that this rule may be suspended by unanimous consent of the general assembly," referring to the discussion and the length of time and to the length of papers.

I can very well see where we may even have a visitor here, invited by the assembly, and yet under the rules he would be given only twenty minutes, or if we had some distinguished guest here who desired to discuss a paper, under the rules if rigidly adhered to (and it has been decided that they must be amended by this House), he could be given only five minutes for discussion. That rule requires, however, unanimous consent. It means if anyone objects it cannot carry.

SECRETARY McCORMACK: That lays over until the next session of the House of Delegates.

I want to say in connection with it that it has been found in all medical bodies that such a rule destroys the program. You can't object when a man is on the floor and says something interesting. You can't object to a request by some friend that his time be extended. It means that the men who are last on the program don't get to present their papers. We have had Presidents who have been lax in that respect frequently in this House, and a number of our best members have been punished by it.

Last night was an example. I don't think there has ever been presented a more studious, a more thoughtful or a more valuable paper than that of Dr. Gregory, and yet due to laxity on the part of the presiding officer of one of the sections, that paper was heard by a very small number of men. It is a paper that had taken two years in its preparation. I don't believe we ought to put ourselves in the position of getting in that fix. Of course, with visitors we have the advantage, under the rules, of extending their time, for they are considered as orators when they are invited by the Association, and their time is unlimited under the By-laws at present.

We have got to hold our own members down, because a man full of his subject can present it in twenty minutes and say all that we want to hear, at any rate, or all we are going to hear, but in spite of the world he will talk on and on if you let him. Take our enthusiastic friend Dr. Hendon as an example, and I select him as an example because in any matter he presents, no matter whether he talks for twenty minutes or twenty hours, he is always in at the first and the last of the thing and he is so full of the subject that no man in this House would have the heart to stop him; we are all entranced, we are enthused, and you couldn't do it. I believe that it would be a mistake, although the matter is not open for discussion at this present time.

PRESIDENT McCLURE: The Chair wishes to say that it is very much pleased that Dr. Frank acknowledges that under Section 4 the Chair was compelled to rule as he did. I didn't make these laws, but so long as they are on the books we are going to observe them, just as we are other laws that I spoke of the other night.

The following bills which had been approved by the Council, were ordered paid:

ACCOUNTS OF THE KENTUCKY STATE MEDICAL ASSOCIATION

1930		
September 30—Voucher Check No. 1		$ 277.75
DR. A. T. McCORMACK, Louisville,		
To September salary, Secretary	$150.00	
To expense to A. M. A. Meeting, Detroit	72.75	
To sundry cash expense for Bowling Green Meeting	55.00	
	$277.75	
Approved by Council and Ordered Paid by House of Delegates.		
September 30—Voucher Check No. 2		$ 100.00
DR. L. H. SOTH, Louisville.		
To September Salary, Business Manager.		
Approved by Council and Ordered Paid by House of Delegates.		
September 30—Voucher Check No. 3		$ 120.25
ELVA GRANT, Louisville.		
To September Salary, Bookkeeper	$ 75.00	
To honorarium	25.00	
To expense to Bowling Green Meeting	20.25	
	$120.25	
Approved by Council and Ordered Paid by House of Delegates.		
September 30—Voucher Check No. 4		$ 100.00
J. F. BLACKERBY, Louisville.		
To September Services Rendered Committee on Public Policy.		
Approved by Council and Ordered Paid by House of Delegates.		
September 30—Voucher Check No. 5		$ 61.00
B. P. EUBANK, Bowling Green.		
To auditing accounts of Dr. W. B. McClure, Treasurer; Dr. M. McDowell, Treasurer, and Dr. A. T. McCormack, Secretary, and Mrs. W. C. Dugan, Treasurer Woman's Auxiliary, Sept. 1, 1929-Sept. 1, 1930	50.00	
To traveling expenses	11.00	
Approved by Council and Ordered Paid by House of Delegates.		
September 30—Voucher Check No. 6		$ 52.50
DR. C. C. MAPES. Louisville.		
To minutes, editing papers and reporting discussion of 1930 Meeting of Eye, Ear, Nose and Throat Section at Louisville.		
Approved by Council and Ordered Paid by House of Delegates.		
September 30—Voucher Check No. 7		$ 54.00
COURIER-JOURNAL JOB PRINTING CO., Louisville.		
To 4 M 1931 and 1932 Membership Cards.		
Approved by Council and Ordered Paid by House of Delegates.		
September 30—Voucher Check No. 8		$ 30.20
DR. CHARLES A. VANCE, Lexington.		
To expense as Councilor, Tenth District.		
Approved by Council and Ordered Paid by House of Delegates.		

September	30—Voucher Check No. 9				$ 14.00
	THEOBALD-JANSEN ELECTRIC CO., Louisville.				
	To One 16-inch AC Signal Oscillating Fan.				
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 10				$ 1.50
	LOUISVILLE TYPEWRITER & SUPPLY CO., Louisville.				
	To Wales Adding Machine Ribbon and Installing.				
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 11				$ 114.80
	BUSH-KREBS CO., Louisville.				
	To 31 Sq. Hts. Ports. of Doctors			141.00	
	Less 20%			28.20	
				$112.80	
	To Art Work, Touching Up Copy			2.00	
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 12				$ 35.00
	AMERICAN MEDICAL ASSOCIATION, Chicago.				
	To 2,500 Inserts of Dr. W. B. McClure's Picture.				
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 13				$ 63.00
	BRAKMEIER BROS., Louisville.				
	To 300 Gold Bangle Bars, "Bowling Green 1930."				
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 14				$ 86.35
	MAYME SULLIVAN, Louisville.				
	To expenses at Post-Graduate School:				
	Meals and car fare, self and assistant			8.90	
	To honorarium			25.00	
	To expense to Bowling Green Meeting and return for self, moving picture operator and Dr. Gilmore, guest at Meeting			52.45	
				$ 86.35	
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 15				$ 8.45
	MEFFERT EQUIPMENT CO., Louisville.				
	To 2,500 4x6 White Cards			$ 5.82	
	To One box 6 3-4 White Tiger Envelopes			1.13	
	To Two Columnar Pads			1.50	
				$ 8.45	
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 16				$ 9.85
	BURNAM & GREENLEAF, Attorneys, Richmond.				
	To expense pertaining to Irvine estate, telephone calls, copy of articles and copy of opinion.				
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 17				$ 25.00
	FRED FORCHT, Attorney, Louisville.				
	To services taking depositions of Dr. J. H. Brewer and Dr. K. A. Fisher in case of Lee Close vs. Dr. J. J. Booker.				
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 18				$ 175.00
	NOGGLE & GRAHAM, Greensburg.				
	To representing Dr. J. J. Booker in case of Lee Close vs. Dr. J. J. Booker.				
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 19				$ 25.75
	H. F. GORIN, Clerk Green Circuit Court, Greensburg.				
	To taxations of cost in Green Circuit Court in case of Lee Close vs. Dr. J. J. Booker:				
	Defendant's Costs:				
	Clerk's Fees			$ 3.25	
	Sheriff's Fees			3.50	
	Stenographer			15.00	
	Jury Fee			4.00	
				$ 25.75	
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 20				$ 24.00
	TIMES-JOURNAL PUBLISHING CO., Bowling Green.				
	To 250 Applications for Space Blanks			$ 7.25	
	To 250 Commercial Exhibits			6.25	
	To 250 Letterheads and 250 Envelopes			4.50	
	To 300 Programs, Post-Graduate Course			6.00	
				$ 24.00	
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 21				$ 235.84
	TIMES-JOURNAL PUBLISHING CO., Bowling Green.				
	To 2,350 80 P. July Issue			$442.00	
	To Inserts and Scoring			8.50	
	To Tabulating Work			20.00	
	To 35 Changes			7.00	
	To Envelopes			15.00	
	To Printing Envelopes			2.30	
				$494.80	
	Credit by Check No. 124, as follows:				
	To account of July Journal		$450.00		
	To account of July Envelopes		15.00		
	To account of Printing July Envelopes		2.30		
			$467.30		
	Less Credit, Check No. 111	$ 7.70			
	Dec. and May Envelopes; paid for but not received	30.00	$37.70	$429.60	
	Balance due on July Journal			**$ 65.20**	

	To 2,250 76 P. August Issue			$422.40	
	To 40 Changes			8.00	
	To Envelopes			15.00	
	To Printing Envelopes			2.30	
	To Inserts and scoring			8.50	
				$456.20	
	Credit by Check No. 131, as follows:				
	To account of August Journal	$435.00			
	To account of August Envelopes	15.00			
	To account of Printing August Envelopes	2.30		$452.30	
	Balance due on August Journal			$ 3.90	
	To 2,500 96 P. September Issue			$534.44	
	To Scoring and Inserting			8.50	
	To Inserts; no scoring			5.00	
	To 90,802 Ems, set to 6 pt.			90.80	
	To Envelopes			15.00	
	To Printing Envelopes			2.30	
	To 40 changes			8.00	
				$673.04	
	Credit by Check No. 137, as follows:				
	To account of September Journal	$485.00			
	To account of September Envelopes	15.00			
	To account of Printing September Envelopes	2.30	$502.30		
	Balance due on September Journal			$170.74	
				$239.84	
	Less Credit by Dr. McCormack's Check fo Envelopes			4.00	
				$235.84	
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 22				$ 45.25
	MRS. RUTH FLAGG, Louisville.				
	To honorarium			$ 25.00	
	To expense to Bowling Green Meeting and eturn			20.25	
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 23				$ 38.50
	AGNES BLAIR, Louisville.				
	To honorarium			$ 25.00	
	To expense to Bowling Green Meeting and return			13.50	
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 24				$ 29.00
	MRS. R. R. CASSELL, Louisville.				
	To honorarium			$ 25.00	
	To expense to Bowling Green Meeting and return			4.00	
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 25				$ 2.25
	LOUISVILLE PAPER CO., Louisville.				
	To 10 sheets 28x44 No. 601 White Mat Board.				
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 26				$ 2.50
	DURLAUF, Louisville.				
	To 1 Used Stand.				
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 27				$ 8.00
	LOUIS VISSMAN, Clerk, Jefferson County Circuit Court, Louisville.				
	To clerk's costs in case of Reedie D. Davis vs. Dr. Walter I. Hume.				
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 28				$ 104.50
	TIMES-JOURNAL PUBLISHING CO., Bowling Green.				
	To 600 Programs			$ 96.00	
	To 1 M Bill Heads			4.50	
	To 800 Filing Cards			4.50	
				$104.50	
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 29				$ 15.00
	JAMES MARTIN, Bowling Green.				
	To 3 days' services as night watchman.				
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 30				$ 20.35
	DR. D. M. GRIFFITH, Owensboro.				
	To expense as Councilor, Second District.				
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 31				$ 40.00
	DR. W. M. MARTIN, Harlan.				
	To expense as Councilor, Eighth District.				
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 32				$ 25.00
	DR. J. G. OWSLEY, Lilly.				
	To honorarium.				
	Approved by Council and Ordered Paid by House of Delegates.				
September	30—Voucher Check No. 33				$ 15.75
	DR. R. C. McCHORD, Lebanon.				
	To expense as Councilor, Sixth District.				
	Approved by Council and Ordered Paid by House of Delegates.				

Upon motion regularly made, seconded and carried, the House of Delegates adjourned at 10 o'clock, sine die.

A. T. McCORMACK, *Secretary.*

GENERAL OR SCIENTIFIC SESSION

FIRST SCIENTIFIC SESSION

TUESDAY MORNING, SEPTEMBER 16

The opening session of the Eightieth Annual Meeting of the Kentucky State Medical Association, held at the Western Kentucky Teachers' College, Bowling Green, was called to order at nine-fifteen o'clock Tuesday morning, September 16, by the President, Granville S. Hanes, of Louisville.

PRESIDENT HANES: The Kentucky State Medical Society is now convened for the execution of its Eightieth Annual program. You will please rise while the invocation is offered by the Reverend H. B. Cross, Pastor of the First Baptist Church of this city.

REVEREND H. B. CROSS: Our heavenly Father, we come to Thee this morning to praise Thy name vastly for Thy guidance and direction in our lives today. We thank Thee for every blessing that Thou hast given to us. We thank Thee for our minds that help us to delve into the mysteries and secrets of the physical universe. We thank Thee for our strength which leads us to cooperate with Thy great laws which we may work out for the good of humanity. We pray for Thy blessing this morning to rest upon these men and women as they shall meet to read and to study, that they may better serve humanity. We thank Thee for the services which they have rendered and are rendering. We thank Thee that we have been enabled, as the years have come and gone, to learn more about the human body and to help alleviate some of its ills and lessen the destructive powers. We pray for Thy blessing, then, that Thou wilt guide us and direct us in the future, that the past may be but a promise of what Thou shalt give to us and enable us to do in the days that come in the future. Bless, then, these proceedings, for we ask it in Jesus' name. Amen.

PRESIDENT HANES: We will now be honored by an address of welcome by the Honorable John B. Rodes, Mayor of the City of Bowling Green.

HONORABLE JOHN B. RODES: Mr. President, Ladies and Gentlemen: It is more than ordinary pleasure to welcome to our city the members of the Kentucky State Medical Association. Yours is a great profession. It is also a happy profession. Your art is the art of healing. Your science is the knowledge of those hidden things that will prevent disease and suffering and cure or relieve it when it comes. You are constantly engaged in the relief of human suffering, and when you must inflict pain, you have sought and discovered an antidote. You are daily comforting the stricken mind and the wounded heart, and to my mind if there is any profession that deserves the divine plaudit of "Well done, good and faithful servant," it is the profession of medicine.

Somehow doctors acquire a fine philosophy of life. They become great optimists; they look forward trustfully and they look forward hopefully. Even in the youth of your profession or your professional life you are infused with the very spirit of optimism.

You are like the young doctor who went west to find his professional fame and fortune and returned to Kentucky to see his parents. His father asked: "Son, have you had any cases?"

"Yes, one."

"What was that?"

"Childbirth."

"And what was the result?"

"Well," he said, "the mother died and the child died, but I brought the old man through all right." (Laughter.)

Yours is not only a happy profession; it is a noble one. True happiness is very closely akin to true nobility. The world is just waking up in point of fact to the marvelous achievements of the medical profession in the past half century, and giving you your just due. Typhoid fever, yellow fever, diabetes, diphtheria, small-pox, and many other diseases once pestilences that scourged mankind are now no more for all practical purposes and around these diseases are grouped the names and the faces of men who have given their lives in the service of their fellow-men.

The world is now tiptoe in expectation that your profession will announce a cure for cancer. Aye, and we stand hopefully today that you will at an early date proclaim a cure for a disease that will startle the world and revolutionize mankind—I mean a cure for hay-fever. (Laughter.)

The truth of it is, gentlemen, that compared to yourselves in the halls of fame the soldier has gotten far more than he deserves. The truth of it is that compared to your profession the lawyer has gotten far more than he deserves. I may express that in a single sentence. There are many times more pettifoggers in the profession of law than there are quacks in the profession of medicine.

You have not only shown this remarkable advancement in the cure of disease and its prevention, but you have shown an equally remarkable advancement in the organization and the uplift of your profession.

Time would fail me this morning, as the apostle who wrote the Book of Hebrews said, to call the roll of faith's heroes, of medical heroes, but may I be permitted to mention one, one who really belongs to us, one who spent a large part of his professional life in Bowling Green, one who cast his Irish courage, his high enthusiasm and his remarkable abilities and political strategy into the uplift of his profession for over thirty years. I refer to Dr. Joseph N. McCormack. (Applause.) Literally he buried his life in the Kentucky State Medical Association.

You are meeting today upon this hilltop, the civic center of culture of Bowling Green and more and more growing to be the pride of our hearts. It has seemed to me that every effort made here for the cultivation of the mind and for the gentler and more refined instincts of the heart and for the strengthening of the foundations of character is aided and fortified by this encircling panorama which you view from this hill-top, revealing as it does, the kindliness and the fertility and the beauty of nature and the goodness of God.

Off yonder upon the twin sister hill-top is the Municipal Hospital, presided over by a staff of local doctors, at their head just at present one of the Presidents of your Association.

The truth is that Bowling Green is a healthy and a happy place in which to live, thanks to the kindliness of nature, pure water, and our good doctors.

Ladies and gentlemen, we hope you will find it so, and when you come to leave, recalling the gracious and warm welcome which we have extended to you, just as warmly we will bid you God-speed and invite you to return. (Applause.)

President Hanes: Judge Rodes really ought to be made a member of the medical profession. He is the only lawyer that I have ever heard speak who placed the medical profession on a plane above his own. (Laughter.)

He sounded a keynote, perhaps, that we do not all appreciate. There is no profession in existence, nor will there ever be, that will have to deal so intimately and so constantly with prejudices, with superstitions, with traditions, as the doctor. You can't impregnate a new idea into a mind until an old one becomes an unsatisfactory tenant of that mind, and the doctor is dealing with this proposition all the time.

The Judge sees the future of medicine. He referred to the various diseases that we are year by year controlling more completely, yet it doesn't make any difference whether you are Republicans or Democrats, when Mr. Hoover went into office he saw from his experience in dealing with the public that the people didn't understand how they themselves could help in the prevention of disease, and you can't prevent disease until the people are educated. So a committee was appointed to study this problem of the cost of the care of the sick, and this committee is to work for five years. Their last report which was made recently showed that over this country we have over a million people today afflicted with malaria, we have in the South more than four millions of people afflicted with hookworm and pellagra. We have many diseases that are affecting the people that we are just as certain as time exists to wipe out, but it takes time, and the people are the ones who are going to do it, with the doctor.

We will now be favored with an additional address of welcome on behalf of the medical profession of Bowling Green, by Dr. B. S. Rutherford.

B. S. Rutherford: Mr. Chairman, Ladies and Gentlemen of the Kentucky State Medical Association: On behalf of the Warren County Medical Society it is with pleasure that I welcome you to our city. The citizens of Bowling Green have always been delighted to entertain visitors, and we endeavor to extend to them the hospitality that is characteristic of Kentuckians. While here, we wish you to feel free and unrestrained to do just as you please. You will be immune from arrest unless you actually commit murder, and in that case there are several hundred members of the Kentucky Medical Association present who will rally to your support and see that you are exonerated. Our Honorable Mayor will turn over the keys of the city to you, and all that you see and desire is yours to command.

We have many places of amusement and entertainment which we would be glad for you to visit. We have the picture shows, the country club, the golf links, and Beech Bend Park, situated on the bank of the Barren River where the scenic beauty is unsurpassed. It is here we will serve you bergoo and barbecue, and at this place you will have an opportunity to dance with some of the most beautiful ladies in Kentucky provided you have left your wives at home. To those who are more religiously inclined, I may say that we have churches of almost every denomination, and prayer meetings which we would attend regularly but for the wrestling match which occurs on the same night. We also have as a place of interest the county jail. If any of you by compulsion visit this institution, by way of encouragement I will state that the accommodations are fairly good and the food is quite wholesome, and we will hasten to bail you out.

We intended to wine and dine you and have an old-fashioned entertainment as in pre-Volstead days, but owing to the vigilance of our police department and the federal officers, our bootlegger failed to put in his appearance, and as the governor of North Carolina said to the governor of South Carolina, "It may be a long time between drinks." However, I have just been informed by Dr. Blackburn, who is chairman of the refreshment committee, that there was a large consignment of Jamaica ginger received last night, which may relieve the embarrassing situation. We guarantee its potency but not its purity. They say its effect begins immediately and in many instances lasts indefinitely. It is said of it that three drops will cause a rabbit to challenge a bull to mortal combat. On one occasion a mouse accidentally got some of the beverage on his feet. It burned him sharply; he licked it off and it immediately went to his head. He stepped out on the floor from his place of concealment, reared up on his hind legs, doubled up his little fists and inquired of the bartender, "Where's that damned cat that has been looking for me?"

It is indeed a great privilege to live in this period of the world's history, a period noted for the greatest scientific progress in every phase of human endeavor that the world has ever known. I think it would not be amiss for some of the older physicians who are present to reminisce for the time being, go back to the earlier days of their practice, and compare the old with the new. Take an inventory of our medical standing and observe the improvements made during that time.

Forty-five years ago when some of us began practicing, the bacillus typhosus had not been discovered, hence our facilities for the prevention of typhoid fever were crude, ineffective, and the disease raged with unabated fury and continued to take its usual toll of human life.

Since the cause has been discovered and preventive measures instituted in the way of better sanitation and preventive inoculation, the disease has been reduced in its frequency eighty-five or ninety per cent. As late as the Spanish-American War, more troops were destroyed by typhoid fever than were destroyed by the enemies' bullets. At this time the cause of malaria was not known. It was thought that it was due to a miasmatic poisoning emanating from decaying vegetation in low, swampy land. When it was known that it was caused by the mosquito, and war was made on this insect, regions that were veritable cesspools of disease and death and wholly uninhabitable were changed to health resorts where one could reside with impunity and no fear of contracting the disease.

The same thing may be said of yellow fever, which in the memory of most of us was the bane of our Southern states and extended as far north as our own city. By preventive measures we have succeeded in banishing it entirely from our midst and do not fear its return.

Diphtheria at that time was one of the most dreaded diseases with which we had to contend. Many epidemics raged with a fearful mortality. It's occurrence was rendered more pathetic by the fact that we hadn't a single remedy that exerted any curative or prophylactic effect. Since its cause has been discovered, men of research have provided us with biological products which will not only cure quickly almost every case seen in its early stage, but given to the susceptible child will render it permanently immune. We believe that this disease will soon cease to occur. We feel that we are rapidly approaching the goal that we hope and expect to reach, when every preventable disease will have been prevented. We do not regard this as an impossible task, but on the contrary we feel very much encouraged by the results already attained.

In this amazing flight of scientific progress we naturally wonder what we may expect next. What will be the customs, the habits and the manner of living of the peoples of the world fifty or a hundred years hence? What great medical problems in this mad rush for knowledge will be evolved which will lift the clouds of obscurity which have always hovered over us, and enable us to comprehend as never before the intricate complexities of the human organism and thereby enable us to cope more successfully with the problems of life?

We already see the dawn of a new era, and we are establishing medicine on a more scientific basis. Men of research are continually delving in the latent resources of nature and gathering from this slightly explored and inexhaustible field of knowledge, facts which are truly astounding the modern world. Seething with mysterious forces is the universe around, forces which mankind is just beginning to understand. The recent discovery that the earth is continuously being bombarded by billions of electrons of a potency so great that no instrument has yet been devised that can measure their power, startled the entire scientific world. All of these factors and others not yet discovered will be brought into requisition and utilized to promote man's welfare, his comfort and his longevity.

There was once a colored boy who decided to get married. He approached his father and asked his advice. The father said to him, "It would never do, as the girl with whom you are in love is your half sister." He became engaged to another girl, and again went to his father for advice, who informed him that she was his half sister. He found another, but his father told him not to mention it to his mother but she was his half sister also. The boy became disgusted and went to his mother, told her he wanted to get married, but every girl he fell in love with his daddy said was his half sister. The mother said, "Don't you pay no 'tention to dat nigger. You go on and marry whoever you please, 'cause your daddy ain't a bit o' kin to you." (Laughter.)

Like the old woman in regard to her son's marriage, we realize the relationship between the practice of medicine of a hundred years ago and that of the present day is so remote that we feel, professionally speaking, that we are not at all related to our daddies in medicine of that period, a period when every patient, regardless of his condition, was bled to the point of depletion, when a patient with a raging, burning fever was denied water which he so much needed and desired, when they were treated behind closed doors and in darkened rooms, thereby shutting out the God-given elements of life, fresh air, sunshine and water.

These spectacular achievements which have occurred in the last few years and saved millions if lives and put medicine on a more scientific basis have not exceeded those of surgery. In the beginning of our practice the peritoneal cavity was seldom invaded. Bold indeed was the surgeon who invaded this perilous domain, realizing the danger to which the patient would be subjected. Operation for appendicitis was seldom performed, and when it was, it was after the occurrence of an abscess or general peritonitis, and was a dernier resort. The gall bladder, though it be reeking with infection or with abscess formation and endangering the patient's life, was allowed to remain, the surgeon realizing the jeopardy to which he subjected his patient by an operation. With our aseptic technic the surgeon does not hesitate to operate in the peritoneal and pleural cavities when the occasion demands, realizing that the danger is very slight.

The heart has been sutured in case of incised wounds and the patient's life saved. The cripple and bedridden invalid are being restored to lives of usefulness by operations on bones, muscles and nerves, which results were thought unattainable at the time we began the practice. Brain surgery is far in advance of what it was at that time. Foreign bodies and tumors located by the x-ray, which we did not have then, are being removed successfully.

It is gratifying to know that every phase of medicine has kept and will continue to keep pace with achievements in other lines of progress. It is a source of pride to be a member of this great profession, realizing as we do that we are doing more for humanity than any other in existence.

In conclusion, may I again extend to you a greeting of welcome. It is our sincere wish that we may have the pleasure of having you with us again. We regret that every member of the Kentucky State Medical Association is not with us today. (Applause.)

PRESIDENT HANES: Ladies and Gentlemen: Dr. John B. Floyd, of Richmond, is on the program to respond to the addresses of welcome, but he telegraphed that it was impossible for him to be here upon this occasion. I know of no one who is more loquacious and who could more appropriately be selected to substitute for Dr. Floyd in this wonderful speech making that we are having this morning than our worthy Secretary, Dr. Arthur McCormack. (Applause.)

SECRETARY MCCORMACK: Mr. President, your honor me entirely too greatly. I was consumed with surprise when I found that being introduced as the most loquacious member of the Association you had not spoken yourself. I fully expected you to continue to respond.

As a matter of fact, my friends, I feel very much more like joining those who are welcoming you to Bowling Green, my old home, than responding to the address of welcome, and will go no further in doing so. I do want to express the appreciation we feel, first to the people of Bowling Green for having selected their Mayor and their most distinguished citizen on the occasion when we are to be welcomed to the city. It is a wonderful thing for a community, for a town and for a county to select as their mayor and as their county judge at this particular time the two citizens who are the most outstanding of all those who have made contributions to human welfare within the limitations of their service. It is a lesson that we can well take home to our several counties, for few of us have reached the same high standard of efficient public service.

Bowling Green is the best place to live in that I know. It has a friendly people; it has no wealth and no poverty. Its people work: they have had the wonderful opportunities of culture that have been given them under the inspiration and leadership of the great man who has helped to build this institution. It has a fine citizenship, it has beautiful country surroundings, it has every facility that is given by modern civilization for the development of the best in human life.

It is a great privilege and pleasure to the people of Kentucky who own a large interest in this town and have contributed to its material welfare so wonderfully, to come to this hill and from it get the inspiration that can come from such an environment.

It is a great pleasure, Mr. Rodes, my old classmate, and Dr. Rutherford, President of the Warren County Medical Society when I was born—and he has been President from time to time since then and has always honored the profession and been honored by it as one of the survivals of that delightful generation of Kentuckians who are genial and gentle and effective and good doctors, and a privilege to be welcomed by you in the name of Warren County and the profession of Warren County. I know we will profit by a mutual experience here. (Applause.)

President Hanes then introduced the incoming President, W. B. McClure, of Lexington.

Ladies and Gentlemen: It is almost one year since the members of the Kentucky State Medical Association convened in regular session in Louisville Kentucky. On that occasion the members of the House of Delegates were charged, as they are each year, with the important duty of selecting a President-Elect.

Upon similar previous occasions the Delegates have been known to indulge in more or less vociferous discussion and political intrigue as to whom this honor should be bestowed upon. In performing their last duty of this character there was an outstanding personality, however, who overshadowed all other possible selections. His name, when mentioned, was taken up by every one present and the Delegates, with one accord, acclaimed their hearty approval of his election.

On account of this gentleman's unsurpassed service as treasurer of the State Medical Society for more than two decades and also on account of his substantial character and scientific attainments he has been a peer in our organization for many years.

Notwithstanding bank presidents, treasurers and many well known characters in numerous organizations could not withstand the temptations of overflowing coffers and fell by the wayside our sturdy, economic Scotch man looked not askance from the path of duty and justice to the trust which had been imposed upon him.

No one has ever merited the presidency of this great State Society more than he of whom I have just spoken and we may depend upon it that he will conduct the destinies of this organization in a manner surpassed by no predecessor. His charming personality and sincerity of heart are outsanding characteristics which the entire profession of our state recognize.

It is a great pleasure, Ladies and Gentlemen, to relinquish the official possession of this historic gavel in favor of our full fledged President, Dr. W. B. McClure, of Lexington, Kentucky.

W. B. McClure took the Chair.

President McClure: Mr. Retiring President, Gentlemen of the Kentucky State Medical Association, Ladies and Guests: I believe it was Oliver Wendell Holmes who on one occasion said that when he was young he preferred his compliments in teaspoonsful, later on in life he liked them in tablespoonsful, and still later in life he accepted them in ladles. I confess that I have reached that stage where I sympathize with the expression of Dr. Oliver Wendell Holmes.

A year ago I tried to express in my very feeble and bungling way my appreciation for the distinguished honor that you then conferred upon me. That honor is equally appreciated today; it is not dimmed.

All I can say is that I renew and repeat my expression of appreciation for this, the greatest honor that can come to any member of the Kentucky State Medical Association. My only hope is that I can in a measure approach the efficiency of my predecessor in the Chair. Last week Dr. Hanes wrote me a very kindly note in which he suggested to me that he would like to be of assistance to me in any way he could, and to please call on him. I wrote him to this effect: "The greatest assistance that you can possibly be to me and to the medical profession of Kentucky would be to continue in the Chair for another year," but this he has declined to do.

Gentlemen, in assuming the Chair we note on the President's desk a program, on the other side a gavel, and I have in my pocket a watch which keeps fairly good time. Useless one without the other. I am going to try as best I can in my limited way to conduct the business of these sessions from a business standpoint, so to speak, and I am going to ask the Secretary if he will read Chapter III, Section 3 in order that we may have an understanding as to our relations one to the other.

Secretary McCormack: Except by special vote the order of exercises, papers and discussions as set forth in the official program shall be followed from day to day until it has been completed. No address or paper before the Association except those of the President and Orators shall occupy more than twenty minutes in its delivery, and no member shall speak longer than five minutes nor more than once on any one subject.

President McClure: Without attempting to emulate Czar Reed in the House of Congress, I expect to abide by this Section, and I hope no member will embarrass the Chair by compelling him to use the gavel.

The General Session adjourned at nine forty-five o'clock, at which time the Scientific Session convened.

Tuesday Morning, September 15

The following papers were presented:

Treatment of Rheumatic Fever in Childhood, by Robert L. Biltz of Newport; discussed by James H. Pritchett of Louisville. closing discussion by Robert L. Biltz.

Present-Day Conception of Pulmonary Tuberculosis in Infancy and Childhood, by Oscar O. Miller of Louisville; discussed by Paul A. Turner of Louisville, E. R. Gernert of Louisville, James Bruce of Louisville, S. C. Smith of Ashland, John W. Scott of Lexington, Annie Veech of Louisville, A. McKinney of Owensboro, J. T. Reddick of Paducah, Smithfield Keffer of Grayson; closing discussion by Oscar O. Miller.

Chronic Purulent Otitis Media, by Henry G. Reynolds of Paducah; discussed by R. H. Cowley of Berea, W. P. Drake of Bowling Green, A. L. Bass of Louisville. Further discussion was postponed until the afternoon session because of the special order at twelve o'clock for the Oration in Surgery.

The Oration in Surgery was given by Owsley Grant of Louisville, on The Position of Urology in the Progress of Medical Science.

The meeting adjourned at twelve-thirty o'clock.

SECOND SCIENTIFIC SESSION

Tuesday Afternoon, September, 16.

The Second Scientific Session was called to order at two p. m., Tuesday, September 16, by President McClure.

Discussion on the paper on Chronic Purulent Otitis Media, by Henry G. Reynolds of Paducah, at the morning session was continued by J. H. Hester of Louisville; discussion closed by Henry G. Reynolds.

The following papers were presented:

Symposium on Minor Procedures Requiring Major Precautions: (a) Dilation and Curettage of the Uterus, by Frederick L. Koontz of Louisville; (b) Tonsillectomy, by Leo L. Jacobs of Covington; discussed by L. P. Molloy of Paducah, R. H. Cowley of Berea, A. McKinney of Owensboro, B. S. Rutherford of Bowling Green, J. T. Reddick of Paducah, Guy Aud of Louisville; closing discussion by Leo L. Jacobs. (c) Intravenous Medication, by Ben B. Keys of Murray; discussed by E. C. Walter of Mayfield. (d) Spinal Puncture, by B. W. Smock of Louisville; discussed by B. F. Zimmerman of Louisville, discussion closed by B. W. Smock.

Treatment of Recent Nasal Fracture, by Charles R. Tanner of Henderson, read by title.

Abdominal Pain from Causes Other than Lesions of the Abdominal Viscera, in Acute Illness, by Charles G. Daugherty of Paris; Abdominal Pain from Causes Other than Lesions of the Abdominal Viscera, in Chronic Illness, by Charles G. Lucas of Louisville, discussed by John W. Scott of Lexington, John D. Orr of Paris, William A. Jenkins of Louisville, Guy Aud of Louisville; closing discussion by Charles G. Daugherty and Charles G. Lucas.

Allergy, by Frank M. Stites of Hopkinsville; discussed by Frank M. Stites of Louisville, Neville Garrett of Cincinnati and Frankfort, Austin Bell of Hopkinsville, B. A. Caudle of Hopkinsville, Philip Barbour of Louisville, A. McKinney of Owensboro, R. E. Smith of Henderson; closing discussion by Frank M. Stites.

Dr. George Dick of Chicago arrived and was escorted to the platform by Dr. G. H. Hanes, and introduced to the audience by President McClure.

Upon motion, duly seconded, Doctors George H. and Gladys F. Dick, of Chicago, were made honorary life members of the Association, by a unanimous rising vote.

The meeting adjourned at five-forty o'clock.

GENERAL SESSION

Tuesday Evening, September 16

The Public Meeting was held at eight-fifteen o'clock Tuesday Evening, September 16, in the Auditorium, Dr. Granville Hanes, of Louisville, presiding.

President Hanes: It is now time for one of the most important events of the present session of the Kentucky State Medical Association. We will now hear the address of our President, Dr. W. B. McClure, of Lexington, Kentucky. (Applause.)

President W .B. McClure read his address.

President Hanes: Ladies and Gentlemen: It is a privilege to present to you the Secretary of the Kentucky State Medical Association, who will introduce the visitor, who will address you after that introduction.

SECRETARY McCORMACK: It is rare privilege tonight, my friends, to present our guest, who with his wife was elected an honorary member, they are really one, of the Kentucky State Medical Association.

Since the days of Sydenham, more and more has been learned about one of the greatest mysterious diseases that has baffled us, scarlet fever. Gradually from time to time pages have been out in the volume of knowledge in regard to that disease, but there were still whole chapters and whole sections and whole paragraphs missing, until these two modest, industrious, hard-working people, scientists, in a little laboratory on a pitiful dole, fifty dollars a month, for years tried to solve the problem by the trial and error method, using all the lore of the ages and all the mysteries of modern science and all the things that were necessary, including animal and human experiments, and have cut the pages and solved the riddle.

As we read and familiarize ourselves with the pages of medical history we are inspired by the sacrifices of those who have written. As we think of their names in the ages past, whether it was McDowell or Hippocrates or any of the host between them, we are inspired to give better service to our people because they lived and sacrificed and worked and died.

It is a rare privilege for us to have one of those men, who with his equally great wife will go down in the pages of the history of the future where the medical organizations of the world will do them honor, come before us, and see him as the lovable friend and fine man he is, simple and modest and just the same sort of folks you all are if you are as good as you ought to be.

It is a great pleasure to introduce Dr. George F. Dick of Chicago. (Applause.)

GEORGE DICK, Chicago, then gave his address on the Prevention of Scarlet Fever.

SECRETARY McCORMACK: Mr. President may I have the privilege of presenting to the members of the Kentucky State Medical Association another distinguished guest of our Auxiliary Mrs. J. Newton Hunsberger, of Norristown, Pennsylvania, the President of the Woman's Auxiliary of the American Medical Association. (Applause.)

We also have with us Mrs. R. N. Herbert, of Nashville, Tennessee, who is the Chairman of the Hygeia Committee of the Woman's Auxiliary of the A. M. A. (Applause.)

We are particularly anxious this year in the American Medical Association and the Woman's Auxiliary as well as in our own Association and Auxiliary, to extend the use of Hygeia, the monthly publication of the American Medical Association which is the authoritative health publication of the American medical profession, into as many homes and schools and institutions as possible. It is the one publication published in popular language that contains, as far as we can know it, the scientific truth that is acceptable and of value to people today.

We want to assure our Auxiliary and the Auxiliary of the American Medical Association that we propose to do our part in the matter. It is of considerable interest that the counties in Kentucky having an active Auxiliary are subscribing to a few more than ten times as many copies of Hygeia as all of the other counties which haven't active Auxiliaries. In fact, Perry County has as large a subscription list to Hygeia, outside of Jefferson County, as any county in the State.

It is not necessary for me to present to you again Mrs. Blackerby, the President of the Auxiliary, who spoke to us last night, but I want you know Mrs. E. B Houston, of Murray, the President-Elect of the Kentucky State Woman's Auxiliary. (Applause).

We are very proud that Dr. McClure could be present tonight, because we wanted him to know these Auxiliaries and to know from their looks the character of their work.

J. H. BLACKRURN, Bowling Green: I don't know how you folks over the state are, but locally we have a good many ladies who are interested in the manly art of wrestling. The American Legion is giving a performance this evening, and the major event will occur in a short while, and the inducement is tickets at half price to those who have the proper badges.

I remember, ladies and gentlemen, as a little bunch of 3000 of us were marching down the streets of Liverpool, and had gotten off the transports on our way to the train, a white-haired lady, dressed in black, stood just off the curb on the street, and as we marched by she waved Old Glory and said, "Boys, you've been a long time getting here, but we're mighty glad to see you." Folks, you've been seventeen years getting here, but we're mighty glad to see you."

The meeting adjourned at 9:40 p. m.

FIRST MEDICAL SESSION.

WEDNESDAY MORNING, SEPT. 17.

The first Medical Session was called to order at 9 a. m. Wednesday, Sept. 17, by President McClure. The following papers were presented:

Pernicious Anemia, by John Harvey of Lexington; discussed by E. B. Bradley of Lexington, Frank M. Stites of Louisville, T. A. Frazer of Marion, Julian T. McClymonds of Lexington, Andrew Sargent of Hopkinsville; closing discussion by John Harvey.

"Fetal Liver Feeding in Aplastic Anemia," by H. V. Noland of Louisville; discussed by E. B. Bradley of Lexington, John Harvey of Lexington; closing discussion by H. V. Noland.

"Serum Re-Injection Therapy in Morphine Addiction," by William D. Reddish of Lexington; discussed by W. E. Gardner of Louisville, A. McKinney of Owensboro, Edward Davenport of Lexington; closing discussion by William D. Reddish.

"Diet in Chronic Nephritis," by Virgil E. Simpson of Louisville; discussed by John W. Scott of Lexington, J. Rowan Morrison of Louisville, H. V. Noland of Louisville; closed by Virgil Simpson.

"Malaria Therapy in Paresis," by Harvey B. Scott of Louisville; discussed by Curran Pope of Louisville.

As a special order at 12 o'clock the "Oration in Medicine on the Mechanism of the Heart Beat," was given by Emmet F. Horine of Louisville.

The meeting adjourned at 12:30 o'clock.

THIRD SCIENTIFIC SESSION.

Wednesday Aeternoon, Sept. 17.

The Third Scientific Session convened at 2 p. m. Wednesday, Sept. 17, President McClure presiding. The following papers were presented:

"Symposium on Pitfalls in Therapy:" (a) In the "Use of Iodine in Thyroid Disease," by Walter I. Hume of Louisville; discussed by Irvin Abell of Louisville, Wallace Frank of Louisville; discussion closed by Walter I. Hume. (b) "The Use of Arsphenamines," by Jethra Hancock (read by P. E. Blackerby of Louisville); discussed by Winston U. Rutledge of Louisville; closing discussion by Jethra Hancock of Louisville. (c) "In the Use of Digitalis," by William A. Jenkins of Louisville; (d) "In the Use of Circulatory Stimulants," by Ernest B. Bradley of Lexington; discussed by C. W. Dowden of Louisville, J. Rowan Morrison of Louisville, Julian T. McClymonds of Lexington, John W. Scott of Lexington, W. O. Johnson of Louisville, Andrew Sargent of Hopkinsville; closing discussion by William A. Jenkins and Ernest B. Bradley.

"The Schilling Blood Count," by Frank M. Stites of Louisville; discussed by Will Allen of Louisville, H. M. Weeter of Louisville; closing discussion by Frank M. Stites of Louisville.

The meeting adjourned at 4:30 p. m., the balance of the program being postponed until evening.

FOURTH SCIENTIFIC SESSION.

Wednesday Evening, Sept. 17.

The Fourth Scientific Session held, following a meeting of the Surgical Session, to complete the program of the preceding session, was called to order at 8 p. m. Wednesday, Sept. 17, by President McClure. The following papers were read:

"Injuries to the Eye from the Standpoint of the General Practitioner," by C. V. Hiestand and W. B. Atkinson of Campbellsville (read by Dr. Hiestand); discussed by A. L. Bass of Louisville, Gaylord C. Hall of Louisville, W. P. Drake of Bowling Green, A. O. Pfingst of Louisville, J. H. Hester of Louisville; closing discussion by C. V. Hiestand and W. B. Atkinson.

"Epidemic Meningitis," by George Gregory of Versailles; discussed by John Harvey of Lexington; Ernest B. Bradley of Lexington, Robert L. Biltz of Newport, C. L. Sherman of Millwood, Lillian South of Louisville; closing discussion by George Gregory.

The meeting adjourned at 10:40 p. m.

SECOND MEDICAL SESSION.

Thursday Morning, Sept. 18.

The second Medical Session was called to order at 9 a. m. Thursday, Sept. 18, by Vice President W. E. Gary of Hopkinsville.

The following papers were presented:

"Influence of Etiology on Prognosis of Heart Disease," by Morris M. Weiss of Louisville; discussed by J. Rowan Morrison of Louisville.

"Neuroses Referred to the Heart," by J. Rowan Morrison of Louisville; discussed by W. E. Gardner of Louisville; B. S. Rutherford of Bowling Green, Morris M. Weiss of Louisville, John Harvey of Lexington, C. V. Hiestand of Campbellsville, C. G. Fallis of Glasgow; closing discussion by J. Rowan Morrison.

"The Failing Heart of the Fifth and Sixth Decades; Its Management," by G. M. Wells; discussed by B. S. Rutherford of Bowling Green; closing discussion by G. M. Wells.

"The Niche in the Diagnosis of Peptic Ulcer," by C. D. Enfield of Louisville (read by I. T. Fugate of Louisville); discussed by C. W. Dowden of Louisville and Austin Bell of Hopkinsville.

"The Indications for Operation in Peptic Ulcer," by Bernhard Newburger of Lexington; discussed by I. T. Fugate of Louisville; closing discusssion by Bernhard Newburger of Lexington.

"Pellagra in Chronic Alcoholism," by Winston U. Rutledge of Louisville; discussed by R. L. Kelly of Louisville; W. H. Joyner of Greenup, John W. Scott of Lexington, A. T. McCormack of Louisville; closing discussion by Winston U. Rutledge of Louisville.

The meeting adjourned at 12 o'clock.

FIFTH SCIENTIFIC SESSION.

Thursday Afternoon, Sept. 18.

The Fifth Scientific Session convened at 2 p. m. Thursday, Sept. 18, Walter Byrne of Russellville presiding.

The following papers were presented:

"A Report of the Work of the Obstetrical Department of the Louisville City Hospital for the Year, 1929," by S. H. Starr of Louisville; discussed by Edward Speidel of Louisville, Alice N. Pickett of Louisville, A. T. McCormack of Louisville, Annie Veech of Louisville, Jethra Hancock of Louisville, Smithfield Keffer of Grayson; closing discussion by S. H. Starr.

"Pregnancy in Thyroid Disease," by E. Dargan Smith of Owensboro; discussed by B. S. Rutherford of Bowling Green.

"Pregnancy in Heart Disease," by L. T. Minish of Frankfort; discussed by Edward Speidel of Louisville, B. S. Rutherford of Bowling Green, H. A. Davidson of Louisville, and Austin Bell of Hopkinsville.

"Control of Pain in Labor," by L. L. Washburn of Benton; discussed by Austin Bell of Hopkinsville.

The meeting adjourned sine die at 4 o'clock.

FIRST SURGICAL SESSION.

Wednesday, Sept. 17.

The First Surgical Session of the Eightieth Annual Meeting of the Kentucky State Medical Association was called to order at 9 o'clock Wednesday, Sept. 17, in the Library Building of the Western Kentucky Teachers College, Bowling Green, Kentucky, by Gant Gaither of Hopkinsville. The following papers were presented:

"Non-Malignant Tumors of the Breast," by J. D. Northcutt of Covington, and "Malignant Tumors of the Breast," by E. C. Walter of Mayfield discussed by E. L. Henderson of Louisville, J. H. Blackburn of Bowling Green, P. H. Stewart of Paducah, D. Y. Keith of Louisville, R. C. Burrows of Cunningham, A. D. Willmoth of Louisville, F. P. Strickler of Louisville, J. T. Reddick of Paducah, E. S. Allen of Louisville, Guy Aud of Louisville; closing discussion by J. D. Northcutt and E. C. Walter.

"Should Resection of the Colon Be a One-Stage or Two-Stage Operation," by Hart Hagan of Louisville; discussed by Louis Frank of Louisville, G. Gaither of Hopkinsville, John Wathen of Louisville, F. P. Strickler of Louisville, George A. Hendon of Louisville; closing discussion by Hart Hagan.

"The Cause of Death in Intestinal Obstruction," by A. J. Miller of Louisville; discussed by Hart Hagan of Louisville, Guy Aud of Louisville, Louis Frank of Louisville, G. A. Hendon of Louisville, G. Y. Graves of Bowling Green, F. P. Strickler of Louisville, E. S. Smith of Ashland; closing discussion by A. J. Miller.

"Local and Regional Anaesthesia in the Reduction of Fractures," by John T. Bate; discussed by E. S. Allen of Louisville, B. F. Zimmerman of Louisville, F. P. Strickler of Louisville, Garretson of Norwood, Ohio, Barnett Owen of Louisville; closing discussion by John T. Bate.

"What Surgery Offers the Consumptive," by Wallace Frank and Judson Boulware of Louisville was postponed until 8 o'clock in the evening because of the special order at 12 o'clock for the "Oration in Medicine."

The meeting adjourned at 12 o'clock.

SECOND SURGICAL SESSION.

Wednesday Evening, Sept. 17.

An extra Surgical Session was held at 8 p. m., Sept. 17, to complete the program of the morning, President McClure presiding.

Judson Boulware of Louisville read a paper on "What Surgery Offers the Consumptive," prepared by himself and Wallace Frank of Louisville. It was discussed by Paul Turner of Louisville, Walter I. Hume of Louisville; closing discussion by Wallace Frank.

The meeting adjourned at 9 o'clock.

THIRD SURGICAL SESSION.

Thursday, Morning, Sept. 18.

The Third Surgical Session was called to order at 9:10 a. m. Thursday, Sept. 18, by Barnett Owen of Louisville. The following papers were presented:

"The Diagnosis and Treatment of Diseases and Accidents of the Upper Air Passages by the Bronchoscope," by Gaylord C. Hall of Louisville; discussed by C. E. Purcell of Paducah, J. H. Hester of Louisville; closing discussion by Gaylord C. Hall.

"Gynecologic Treatment by Electro-Therapeutic Means," by A. David Willmoth; discussed by F. P. Strickler of Louisville; closing discussion by A. David Willmoth.

"Operation for Vesico-Vaginal Fistula," by John R. Wathen of Louisville; discussed by F. M. Massie of Lexington, F. P. Strickler of Louisville, W. O. Johnson of Louisville, Edward Speidel of Louisville, H. A. Davidson of Louisville, G. A. Hendon of Louisville,

D. M. Cox of Louisville; closing discussion by John R. Wathen.

Diagnosis and Treatment of Acute Osteomyelitis, by S. C. Smith; discussed by Orville Miller of Louisville, Barnett Owen of Louisville, Guy Graves of Bowling Green; closing discussion by S. C. Smith.

Liver Function Tests and Cholecystography in Relation to Gall Bladder Surgery, by M. J. Henry of Louisville; discussed by D. Y. Keith of Louisville, C. W. Dowden of Louisville; closing discussion by M. J. Henry.

Diagnosis and Treatment of Acute Pancreatitis, by Edwin F. Shepard; read by title.

Modern Prostatectomy, by Clem Hill; discussed by M. J. Henry of Louisville, D. M. Cox of Louisville; closing discussion by Clem Hill.

The meeting adjourned sine die.

A. T. McCormack,
Secretary..

Cerebrospinal Meningitis: Early Diagnosis.—In fourteen of seventeen cases of cerebrospinal meningitis which Miyara and Basso observed in patients aged from 9 to 70 years, the disease was manifested by a sensory polyneuritis (located at the cervical plexus and at the lumbar and sacral plexus), associated with a septicemic picture, which association the authors describe as a "painful septicemia." In the author's cases the appearance of sensory polyneuritis at the insert of the cerebrospinal meningitis was so constant that they consider it of diagnostic value. As soon as the authors observed this symptom they made the first lumbar puncture for the bacteriologic examination of the cerebrospinal fluid. At the same time that the first lumbar puncture was made, in which the authors withdrew 30 or 40 cc. of cerebrospinal fluid, they made the first introspinal injection of 40 or 50 cc. of an antimeningococcus serum. So long as the cerebrospinal fluid was positive for meningococcus, injections were given daily, when the condition of the patient permitted it. In these cases polyneuritis improved under the treatment soon after the second injection, and by the fourth or fifth injection it disappeared. The authors say that the good results in their cases (fourteen patients recovered out of seventeen treated), were due to the early diagnosis and to the intensive serotherapy.

ORATION IN SURGERY

THE POSITION OF UROLOGY IN THE PROGRESS OF MEDICAL SCIENCE*

Owsley Grant, M. D.
Louisville

While my personal pride makes me deeply appreciative of the honor of being selected to give the Oration in Surgery before this ancient and distinguished society, yet modesty adroitly whispers in my ear that the reason for the selection is not to hear my poor efforts but because you are interested in the branch of surgery which I happen to represent. When we look upon civilization's progress, we note from the early times when men followed the courses of the Euphrates and the Nile, and then settled along the Dnieper, the Volga and the Danube, their procession has always been along the great water courses of the earth. May we then look for an analogy that certainly in recent years much of the progress of Medicine has been by study of the great water course of the body, the Urinary Canal? Urology as a part and parcel of general medical and surgical practice is really very ancient. Through the centuries the study of the urological and genital tract has attracted many of the great minds of surgery, and operations on the bladder probably were the first real surgical operations on viscera. But for many centuries, there was nothing to distinguish urology as other than a branch of general surgery and when so little was known about any type of medicine, surely no one had claim to any specific specialty. And so it lay hidden between the folds until the discovery of the electric lamp made possible the study of the interior of the bladder. Now when this discovery occurred a strange thing took place. One would have supposed that Surgery would have looked upon this refinement of diagnosis as its own but, strangely enough, it did not. Men who were in no wise capable of surgery, but who were treating chiefly venereal diseases and plodding along in an unscientific way, these men seized on the cystoscope and began to study the bladder. This was the first epoch of Urology. Then the founding of the American Urological Association banded the more ambitious of cystoscopists together and solidified their incentive. The great majority of these men who acquired the art of cystoscopy made the differential diagnosis of kidney and bladder lesions and then passed their cases over to the surgeon to remedy the ill. Almost none of these men were trained in the science of the scalpel and for several years the cystoscopist was a mere satellite, performing a cycle useful but never complete. Then came the present epoch in Urological History. Some of the gifted men who were skilled in this art likewise perfected themselves in surgery, such pioneers as Young, Marion and Von Lictenberg, and their intimate knowledge of cause, and their skill in the treatment, were soon able to do better Urological Work than the general surgeon. After these pioneers blazed the trail, the path became wide, men who planned to practice urology as a special field first trained themselves as surgeons, and now there is in every community one or more men skillful in urological diagnosis and in Urological Surgery who are ably fitted to carry their findings to the logical conclusion.

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*Read before the Kentucky Medical Association, Sept. 16, 1930, Bowling Green.

The Specialty of Urology was not developed by prying odds and ends off the block of general surgery but it also owes much of its development to those surgeons who, stimulated by the advances and discoveries made, gave much of their knowledge gleaned in a broader field and some of the richest contributions to modern urology have been made by such men as Deaver, Cabot and Lower and Urology gladly acknowledges its debt to their valuable assistance. The products of these men are journals devoted exclusively to Urological problems, distinct Urological services in all general hospitals and in some cases separate hospitals devoted entirely to Urological cases. The advances these men have made, their conclusions about Urological problems form the basis for what we hope will interest those of you who do not devote your time to this study, but who are occupied with other fields; yet those other fields so closely touch and blend with this specific field that sometimes it is hard to separate them. The internist finds many of his elderly patients with heart lesions, and grave kidney dysfunction due to prostatic obstruction. Infections of the kidneys were so very frequently treated as typhoid fever and undetermined pyrexia. Daily with busy surgeons arises the differential diagnosis between appendicitis and renal calculus, the pediatrician no longer treats obscure fever in children for weeks with medicine out of a bottle without considering the possibility of pyelitis and pyonephrosis, the orthopedist finds many of his spinal arthritides due to metastases from a malignant prostate, and the proctologist may trace many of his so-called inschio-rectal abscesses to the infected prostate, and so the dentist has been shown the connection between abscessed teeth and stone in the kidney. These are a few of the tangent lines and they might be multiplied many fold but they are sufficient to show the relation of Urological study to Medical Science.

With the aid of the cystoscope, the X-Ray and laboratory, Urology has become perhaps the most exact branch of medical science. Here we can see the great number of lesions and with proper interpretation the error is probably less than five per cent. This accuracy is not because Urologists have any greater acumen, but because their specialty permits of more perfect vision than any branch except the eye, ear, nose and throat. The ability to see with the eye distinctly makes correct diagnosis then much more a matter of the proper interpretation of experience than brilliant guesswork. Cystoscopy use to be looked upon as a most formidable procedure, but skill and practice have made it as simple in the hands of skillful men as the stethoscope. Yet Urology is not a science to be learned over night, nor are all the problems easy.

A complete Urological survey requires more than mere ability to view the interior of a bladder or catheterise an ureter. It means the proper ability not only to determine the cause of the mechanical findings but as well to appreciate their possibility of error. Many times repeated examinations must be made. For example, the X-Ray picture may sometimes fail to show a stone of certain consistency in a plain plate, yet when this pelvis or ureter is filled with a shadow casting medium the defect of proper filling may be instantly detected in a second picture. Again, if a picture is taken when the muscles of the pelvis and ureter are in spasm, it may show distortions and contractions that suggest distinct obstructions or advanced pathology, yet when another is taken in the period of relaxation the evidence points clearly to a normal organ. An X-Ray of the patient in the recumbent position may show a kidney in apparently normal position, and when the patient is viewed in the erect position, as is now possible on the modern cystoscopic table, the kidney may be found almost in the pelvis, where it drops by gravity from lack of proper support and causes angulation and kinks which practically obstruct the urinary flow. So to be complete the Urological survey predicates for its proper diagnosis the interpretation of the picture seen and the X-Ray film in conjunction with the clinical and laboratory findings and herein lies the art and skill which come only with prolonged experience and analysis of many previous complicated cases.

I shall not tire you with a record of Urology's accomplishments. Many of the facts are known to you, for example that the mortality of prostatectomy has been reduced from fifty per cent to less than five, that many obstructing prostates may be relieved by an urethral operation with no mortality at all, that ninety-five per cent of ureteral calculi are removed without surgical operation, that stones in the bladder may be crushed and removed under vision without opening the bladder, that many tumors of the bladder are most satisfactorily destroyed by electricity applied through the cystoscope, that no longer is there danger of removing the only good kidney which can sustain life, since the function of both can be studied, that patients may suffer for years from obstructing angulations and strictures of the ureter, and that patients without demonstrable changes in their urine may endure the most frightful strangury and pain from elusive ulcer of the bladder. We have come neither to bury nor eulogize Urology. Any branch of medicine to be worthy of its position must perform two functions; first, to be able by especial skill to alleviate and cure conditions that general medicine and surgery can not, and secondly, to disseminate its knowledge to the general profession so that it may form a part of their armamentarium in the differential diagnosis and prognosis of disease. Urologists have passed on the knowledge that hematuria is not a simple accident but the first sign of dangerous urinary disease, that pus in the urine means certain damaging processes, that the prostatic with difficult urination and gradually diminishing health need no longer be doomed to the catheter or death or a malodorous existence but has ninety-five chances out of a hundred to become a healthy happy citizen. These things you and I know as a result of the efforts of men in Urological study.

Because the rise of Urology has been so rapid and so brief we are tempted to feel that we have reached the summit, but a little careful consideration shows us that we are only on one of the lesser elevations with a long way yet to go. To achieve greater heights we look forward not to mechanical aids through which the progress so far has been gained but to the less tangible accessories of medicine. Chemistry is the lodestone to the solution of many of our problems. Through it we must find the causation of stone, by its elucidation of metabolism we hope to be able in time to prevent recurrence of calculi. Though we talk in knowing terms of uremia, our conception of the process is faulty and subject to daily revision. It is a certain fact that patients may have uremia and die with a much less change in the blood picture from a chemical point of view than thousands of others who proceed more or less happily with their daily tasks. The study of blood chemistry was used in Urologic study before it became widespread in general diagnosis. Metabolism of digestion is a constant problem to septic urologic patients. We look to those who study the alimentary tract to advise and correct us in our attempts to help those now who fade out gradually from inanition. The anaesthetist has improved anaesthesia to so great an extent that pneumonia has almost passed out as a cause of death, following surgery, but untoward effects still follow in sufficient numbers to warrant our being yet satisfied with other types of general anaesthesia. A great number of urological patients are elderly men or others so debilitated by the damage to their vital structures that any anaesthesia is extremely hazardous. Because all urological disease lies below the diaphragm and much of it below the pelvic brim, spinal anaesthesia has been largely employed. Because this type of anaesthesia has less effect on general metabolism and causes less strain and effort on the part of vital organs, as the heart and kidney, it has been extremely well suited to these debilitated urological subjects.

We have a common search with all our fellow practitioners for the cause and cure of cancer. We are almost as much in the dark as to its causes as we have been since time began and though we progressed greatly in its eradication yet the fundamental cause is a flagrant void. Cancer of the bladder is a terrible disease. Amidst what little information we have with regard to the cause of cancer one fact stands out with very striking prominence, namely that at least frequently, if not always, the appearance of cancer in any organ is predisposed by some form of irritation. We are almost justified in saying that cancer never begins in healthy tissue. In the mouth and tongue we are taught that agents which cause irritation, as bad teeth, pipe smoking and such are considered at least contributory causes, by first irritating and damaging the normal tissue. In the alimentary canal it is certainly emphasized by enterologists that cancer does develop on the site of ulcer and in the rectum, where irritated by hard fecal matter, the mucous membrane loses its integrity. In the cervix it is pronounced much more frequent in those women in whom parturition has lacerated the os or caused it to be bathed in a purulent fluid. So while we may not claim irritation as a sole predisposing cause of cancer, yet the two occur so very often together that the thought of their conjunction must give us pause. Especially insidious is the cancer of the urinary tract. Almost invariably it is painless in its incipiency and the first sign is bloody urine. This is true of incipient cancer of the kidney and to a less extent of the bladder. So hematuria must be regarded as the most significant sign of this great cause of urinary disease. Its late ravages, both locally and metastatically, entail almost unparalleled suffering and yet in its early stages, those days when pain and hematuria are slight, when it is manifesting its first symptoms by frequency and a little blood, it is happily subject to radical removal and destruction. I say happily again because cancer of the bladder metastasizes slowly and late and if removed early, the chances of cure are excellent. Frequently in patients referred for a slight hematuria or a vesical irritation, we find a small villous growth that can be easily removed by fulguration through the cystoscope and yet these apparently innocent growths are potentially the malignant type of carcinoma. The treatment of cancer of the bladder is confused because the stages of its growth are so varied when it is seen. Only when seen by the experienced cystoscopist can the best plan for that particular growth be determined. The blind application of radium by one not familiar with the types of these growths is even more criminal than the neglect of the early signs by those who see them. I pin absolutely no faith to radium in treatment of cancer of the bladder. Radium has its function doubtless elsewhere, on the skin, in the cervix, or in the prostate but it is the decided opinion of practically all urologists that no matter what radium does to the tumor in the bladder, it leaves the bladder itself more painful and less useful than even the cancer made it.

Now cancer of the prostate is a different problem. It usually grows to a large extent before it is detected. Because it begins far below the surface of the mucosa of the bladder or urethra, the symptoms of pain and hemorrhage are very late. Frankly, I know of no way of detecting early cancer of the prostate either by vision or by its symptoms. The sole evidence is feeling the nodular gland by rectal palpation. Hence, by the time it is diagnosed it has usually reached so great a size and extended into the capsular tissue to such an extent that its surgical removal is nearly always prohibitive. By the direct implantation of radium emanation seeds into the substance of the gland its growth is often controlled and occasionally completely cured without the terrible symptoms of strangury that accompany radium irritation of the bladder mucosa.

Another promising and little appreciated field of urology is just now claiming some recognition and that is the urological diseases of children. When the adult has pain or prolonged fever he sees to it that the cause is determined. In children the problem is somewhat different. Pyrexia and poorly defined pain have been heretofore treated medicinally for many weeks even when the Widal or the stained smear or culture of the blood were persistently negative. A great number of these cases are due to pyelitis, infection of the kidney pelvis, especially in little girls and one or two lavages of the kidney clear them almost magically. In addition to this many children are subjects of congenital defects of the urinary tract that interfere with proper drainage and if the pyelitis is not simple, it is frequently caused by a deformed ureter or kidney or often by a stone and early correction of these conditions put these distressed little patients on a road to healthy life whereas delay means either the loss of a vital organ or death. As in adults urological investigation of these children is no longer fraught with the fear and danger as formerly and infant cystoscopes are now available that permit the catheterization of the ureters of a week old baby if necessary.

If Urology had done nothing more than instill in the minds of every doctor such maxims as "never remove more than 300 c. c. of urine from any chronically distended bladder at one time," or "determine the cause of every case of hematuria or pyuria before you treat it from a bottle," or "constant dribbling of urine is almost always from overflow of an over distended or injured bladder rather than a small one," or "pyrexia of undetermined origin is frequently due to inflammation of the kidney pelvis without much demonstrable change in urine," if it had only taught these to be observed, it has saved thousands of lives, but because it can explain and cure their cause it modestly invites recognition. But if it invites recognition, it also begs indulgence and solicits aid. We must admit that any science that can not yet explain stone formation, cause of cancer and is so extremely hazy about the chemistry of uremia, three of its most fatal diseases, must refrain from blatant pomposity. What is has achieved, it has accomplished as the handmaiden of that jealous mistress, Medical Science. The hopes for its further accomplishments must lie largely in the sharing of the increase of your knowledge, you internists, you surgeons, you chemists. What has been done has been done chiefly by mechanics and skill. The art of future Urology must lie in the applications of the facts you are so rapidly gaining to its own specific field. So in anticipation of your future largess we humbly say "for what we are about to receive make us duly grateful."

ORIGINAL ARTICLES

TONSILLECTOMY IN THE ADULT*

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Louisville.

Not many years have elapsed since the tonsils in adults have been considered of sufficient importance by physicians and surgeons to be contributory factors in a number of intractable systemic diseases and localized lesions.

The removal of tonsils in the adult is rapidly gaining favor as a careful perusal of the literature would indicate and the fallacious idea that either extreme of life is a contra-indication in itself, regardless of conditions resulting from a probable focus, does not hold good as is evidenced by the results obtained in the vast majority of carefully studied cases that have come to operation.

The subject of this paper has been chosen to give you my experience of a study of the end results noted in the removal of tonsils in the adult. Without further preamble we will consider the indications for an adult tonsillectomy.

The history of the patient and the condition of his tonsils are quite significant. In the latter connection the use of suction applied to tonsils has been of inestimable value to me in all cases. By gently drawing the tonsil from its bed we can determine its size, whether adhesions exist and the amount of food debris and other material that the crypts may be harboring. It also enables us to obtain pure cultures for laboratory examination. This method in many instances has been the deciding factor favoring operation.

I have been particularly gratified by the results in the removal of tonsils for recurrent tonsillitis and peritonsillar abscess, and from my experience I am convinced that recurrent suppurative peritonsillitis is the most positive indication for tonsillectomy, and that the operation insures absolute immunity. The fact that between the attacks macroscopically and microscopically the tonsils may appear to be most inoffensive should be given but scant consideration.

A very common symptom of which many patients complain is that they are "always tired." This symptom justifies us in investigating every possible source of a septic focus, teeth, tonsils, nasal sinuses, ears, genito-urinary and intestinal tracts. I have removed tonsils in many instances for chronic arthritis, endocarditis, neuritis, recurrent sciatica, tonsils proven to be carriers of diphtheria, etc.

Occasionally a public speaker or singer consults us regarding the removal of his tonsils. He may be slightly apprehensive, especially if he is a singer, lest something happen to mar the quality of the voice and he wants a positive answer as to the indications for the operation. Here, if there are divergent opinions, I give great consideration to my findings as elicited by the suction apparatus which may be the determining factor for or against operation. It has been my good fortune by a careful tonsillectomy to improve the voice and the physicial comfort of this class of patients. I am sure this has been accomplished by the removal of the source of irritation incident to the absorption of toxins when diseased tonsils are the underlying cause of the troublesome sub-acute laryngitis from which so many of this class of patients suffer.

In my experience the small, submerged tonsil is one of the most deceptive types with which we have to deal. Here again suction aids us in a solution. Tonsils showing on their surface crypts and recesses frequently enclose in the deeper structure foul smelling concretions which can be obtained by suction. This is the type of tonsil in which the patient may not complain even of sore throat and yet it is frequently the underlying cause of systematic trouble, particularly of the digestive tract. Yet some give but little credence to the presence of expressible fluid or semi-fluid secretions claiming that secretion can be obtained from most tonsils. Rosenow makes cultures from these secretions and injects them intravenously into rabbits. If the lesions are reproduced clinically and serologically the tonsils are indicted and their removal recommended. If the disease is not reproduced, in his opinion, the tonsils are considered innocent. I am convinced, however, that there is a tendency to modify his later statement, when he writes further that in disease of the type commonly ascribed to focal infection, if no other focus is found, the tonsils are removed when plainly diseased or etiologically to eliminate them. Experience which we must admit is our greatest teacher, prompts me to state that tonsillectomy in the adult is largely determined by careful observation of definite clinical symptoms and carefully studied indications. In adults, we should associate the kinship of tonsils and alleged observations elsewhere.

It is a well recognized fact that some aural conditions, more particularly of the supprative type, will not recover until the offending tonsils are removed. Certainly, this should be given consideration in the treatment of many aural disturbances. The same rule holds good in the relief of impairment of hearing, of tinnitus aurium in non-supprative otitic cases.

I am also convinced that there is no age limit within reason that would contra-indicate the removal of infected tonsils. After all, it is a question of symptoms and indications which we must consider and finally act with the best interest and safety of our patients.

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*Read before the Louisville Medical Chirugical Society, March 14, 1930.

Among the contra-indications, hemophilia heads the list, delayed clotting time, anemia, acute infections in the respiratory tract, excessive blood pressure, active tuberculosis and advanced pregnancy. In fact, tonsillectomy in the adult should not be done until the patient has been studied very carefully by a competent internest and we have been advised that he is in an operable condition. Obviously tonsils should not be removed when acutely inflamed nor until the inflammation has subsided, and for the same reason they should not be removed during the menstrual period. S. Mac Cuen Smith believes, and I am thoroughly in accord with his belief, that pathological tonsils of the malignant type should not be dealt with surgically, at least until other methods, including radium and perhaps X-Ray have been tried. In our experience every case of this type in which surgical intervention has been instituted has resulted disastrously. Other contra-indications are: active cardiovascular syphilis, definite cardio-renal disease, acute infections that involve the heart, profound blood dyscrasis and physical prostration of the patient.

Having determined that a tonsillectomy is indicated what method should we employ? In practically 85 per cent of adult cases we prefer to do the operation under local anesthesia. If the patient is inclined to be apprehensive about the operation everything possible is done to ally his fears. He is instructed to come to the office daily for a few days previous to the date of operation and at each visit every step of the operation is carefullly gone over and he is advised that only three things are required of him. The first, relaxation; second, regular breathing through the mouth; and third, a wide open mouth. He is doubly assured that there will be no pain and very little, if any, bleeding at the time of operation. Late primary and early secondary bleeding occurs in about 1 per cent of the cases. The usual laboratory work consists of a clotting and bleeding time, blood pressure and urinalysis. One-half hour previous to the operation he is given a hypodermic of morphine sulphate gr. 1/6 and scopolamin gr. 1/200. At the time of operation three topical applications of 10% solution of cocaine at five-minute intervals are made to the tonsils and adenexa. These applications are made primarily to assist us in gently grasping the tonsil with the idea of drawing it forward into the pharynx, in order to make the novocaine infiltrations in the most advantageous areas possible. I do not take credit for the method of drawing the tonsil out of its bed for the novocaine injection but I have never seen another surgeon employ it. I am quite sure it has its advantages, and I use it in every case. After ten minutes have elapsed the tonsils are carefully removed by dissection and snare. All bleeding points are ligated and the patient is sent to bed with a dry throat. He is placed in bed face downward with an ice collar to his throat. If pain subsequently follows he is given a hypodermic of morphine sulphate gr. 1/6 and the ice collar is kept in place at intervals for twenty four hours.

If patient is operated under a general anesthetic nitrous oxide and ether is generally chosen, preceded by hypodermic of morphine sulphate gr. 1/6 and atropin sulphate gr. 1/150. The operation is done by a Daniels instrument, which I am now showing, because it has the advantage of a dull crushing blade which quite materially controls bleeding. The patient during the operation is placed in a modified Frendelenburg position and a suction apparatus is used when necessary to rid the pharynx of blood and secretions. This position and the employment of suction, in my opinion, do more to prevent one of the most dreaded complications, that of lung abscess. We are all familiar with its symptoms, but fortunately I have only encountered it on two occasions. It is rare, considering the number of tonsil operations done. Many cases are of hematogenous or lymphogenous origin, as shown by Fetterolf and Fox, and hence unavoidable. Some cases are certainly of aspiratory origin and careful attention to efficient aspiration and to avoidance of deep anesthesia and prolonged abolition of the cough reflex are factors in our freedom from this complication. Hemorrhage of the late primary type is possibly the most frequent complication. While its appearance is not looked upon with favor, it is not necessarily dreaded. The inconvenience and discomfort that it affords the patient as well as the operator, is its greatest menace. The frequency of this complication is minimized by ligation and careful attention to detail at the time of operation.

Within reason age, as heretofore stated, holds no terror to the operation, providing there are no contra-indications and the patient has been given a clean "bill of health," so to speak, by a competent internest. The oldest patient I have operated was seventy-two years of age and many in the sixties. Therefore, through observation I am led to believe that it is not so much what an adult tonsil looks like but what it does that counts. If the patient suffers from repeated attacks of tonsillitis he will always be grateful for the operation, even if he fails to get relief from some other trouble.

The small tonsil may be the cause of more disturbance to health than the large one.

Unusually large tonsils may, by reason of their size alone, interfere to some extent with swallowing, breathing and the production of clear speech. Such tonsils should be removed even though they show no particular sign of infection.

The tonsil which is not acutely inflamed but contains free pus, whether it be large or small, is undoubtedly a menace to the health of the individual and should be enucleated.

As in other surgical procedures, tonsillectomies do not give us 100% of cures for which their removal was indicated, which observation suggests that there may be other causes of disease than tonsils. Probably in the majority of cases pathological tonsils are but one of various factors contributing toward a general state of disease.

May I conclude by stating that in the last analysis we are justified in asserting that clinically there is little to show that excision of the tonsil in selected cases causes evil effects. On the other hand, the literature is replete with evidence of the most beneficial effects. The general profession is too prone to regard the operation as a minor procedure. I cannot make it too plain to you, or assert it with too much emphasis, that the enucleation of the tonsil in the adult is a major operation. We believe that every tonsillectomy case should be hospitalized, certainly for a few days. The office tonsillectomy is done for expediency and not proper regard, in our opinion, for the patient. Yet, I believe, that the risk of enucleation of diseased tonsils, barring contra-indications, is less than the risk of retention. Finally, I may add that the removal of diseased tonsils in the adult, which all experienced laryngologists should be able to recognize, is productive of brilliant results; but may be disappointing. It is a field where incompetence may demand a rather heavy toll and many grievances.

DISCUSSION

J. H. Simpson: I have enjoyed Dr. Wolfe's interesting and practical paper and agree with him in practically everything he has said. I think probably one reason for the development of complications in adults from infected tonsils is that absorption of septic products is more through the blood stream than the lymph nodes as in children.

Personally I have never seen a lung abscess following tonsillectomy, although a great many cases have been reported. Undoubtedly some of these may have been caused by aspiration. If this be the case, tonsillectomy under a general anesthetic the patient should leave the operating table with a clean, dry throat.

J. R. Peabody: I have enjoyed Dr. Wolfe's excellent paper and agree with practically everything he has said, especially about the indications for tonsillectomy. There has always been some difference of opinion as to the value of suction to determine the indications for operation. I think the indication he gave regarding peritonsillitis is absolutely correct. In my opinion one attack of quinsy calls for tonsillectomy unless there is some good reason for not doing so, and the same statement will apply to one attack of acute tonsillitis.

Medical men often send patients to us with some systemic infection or probably with skin disease supposed to be due to a focus of infection somewhere, and it is then "up to us" to find the focus of infection. We examine the tonsils first and if nothing abnormal is found we are apt to suspect infected teeth. I am speaking now of adults. In children we have very little trouble about the teeth.

I was impressed three years ago while at the Mayo Clinic. When I walked into the tonsil operating hospital there were 35 patients waiting to be operated on that morning. They are very radical about indications for tonsillectomy not so much on the advice of the throat man as the internist and the man who sees all of the so-called rheumatic cases. I understand that if a focus of infection cannot de demonstrated elsewhere in these cases they remove the tonsils anyhow. There has been considerable bacteriological work done on the tonsil and there is a difference of opinion about it. Statistics do not mean much because observers disagree about the importance of examining material obtained from the tonsils. Some pathologists have reported that practically every tonsil contains some kind of infection and that this should not be the determining factor in deciding for or against tonsillectomy. In doubtful cases our conscience should be our guide about removing the tonsils. I tell my patients after they have been examined thoroughly for foci of infection,—prostate, gall bladder, appendix, rectum, etc—and these areas have been eliminated as sources of infection, unless the dentist can clearly demonstrate, that the teeth are responsible, I think it advisable to perform tonsillectomy before extracting his teeth.

There is little to be said about complications. We all know the danger of secondary hemorrhage, but do not regard this as grave provided the patient is returned to bed with a dry throat. Secondary hemorrhage does not occur very frequently unless there has been some defect in the operative technique. I have seen a few instances where the nurse gave the patient some hot liquid to drink which induced hemorrhage. Where the patient has taken a general anesthetic, especially a young woman, shouting or screaming while coming out from the anesthetic may be the cause of hemorrhage. Tonsil operations are usually performed in the morning, and if the patient is kept in the hospital until the following morning and no signs of hemorrhage appear, he is usually safe. In adults there is not much danger of overlooking hemorrhage as they expectorate the blood, but children often fool us by swallowing it.

It is very interesting to me to see the difference of opinion on the question of anesthesia, that is whether to perform tonsillectomy under a general or a local anesthetic. In certain sections of the country some of the best men refuse to do the operation under local anesthesia. Lynch, of New Orleans, practically never performs tonsillectomy under local anesthesia. In St. Louis they are afraid of it, as they have had several cases of sepsis and neck abscesses following tonsillectomy under local anesthesia. One reason for that is the faulty injection. The needle may be introduced through a septic tonsil which spreads infection into the neck.

I have been very much interested in the possibility of lung abscess. I was the first, and I believe the only, laryngologist in Louisville to report such a case, but I am sure there have been other cases of lung abscess following tonsillectomy. Medical men have reported them, but I have not heard of throat men reporting any. The only case I have had occurred in the Louisville City Hospital. The patient was a colored man upon whom tonsillectomy was performed five or six years ago. Everything went along smoothly during the operation, and there was no reason to suspect he had aspirated any septic material, but he did have a severe reaction. He had had a very much inflamed throat and I waited a couple of months to get him in condition for operation. He was kept in the hospital a few days and then allowed to return to his home in the country. About a week later the family physician reported that the boy had pneumonia, and I went to see him. He then had all the classical symptoms of lung abscess, including profuse foul-smelling expectoration. He died about a year afterward.

I saw figures today showing that nine hundred cases of lung abscess had been collected in the past four years, and 50 per cent of them were supposed to have followed tonsillectomy. This raises question about the cause, something in which I have been particularly interested. I do not believe we will ever be able to solve the problem. The general belief is that lung abscess following tonsillectomy is due to aspiration of septic material. It seems to me if lung abscess following tonsillectomy were due to aspiration of septic material, we would encounter such cases more frequently.

After tonsillectomy we have all the factors predisposing to the formation of thrombi, trauma, sepsis, muscular action. We know that after the operation the small vessels are filled with thrombi. The extension of thrombi to the lungs, it seems to me offers a very reasonable explanation of the development of lung abscess. The fact that abscess occurs quite often when local anesthesia is used is significant. I cannot believe that a patient operated on under local anesthesia would aspirate any septic material.

Wm. J. Young: About ten years ago Dr. William Weatherbee, of Rockefeller Hospital, New York, a good friend of mine, was in charge of the Roentgen-ray Department. He conceived the idea of treating infected tonsils, especially in the adult. by means of the x-ray, based on the theory that the lymphoid tissue of the tonsil is possibly eight or ten times more susceptible to irradiation than the skin. He claimed that he could direct the x-ray just under the angle of the jaw and irradiate the tonsil without producing any perceptible change in the skin. He found on investigation after treatment that the tonsillar crypts had been emptied of purulent material and there was much improvement. He became very enthusiastic about this method of treatment. He wrote me at the time and shortly thereafter the Eye, Ear, Nose and Throat Society asked me to talk on the subject. I told them what he knew and what I did not. The only member showing any enthusiasm was the late Dr. I. A. Lederman, and we treated three or four cases that were considered inoperable. Since that time a special technique has been evolved for roentgen-ray, radium and ultra-violet irradiation in tonsillar infections. So far as the cases that Dr. Lederman and myself treated are concerned, the bacteria foreign to that part of the mouth soon disappeared and our results were fairly good.

I would like to ask the essayist to tell us what he thinks of agents such as the roentgen-ray, radium, high frequency current, ultra-violet ray, diathermy and electrocoagulation in the treatment of tonsillar affections.

J. A. Flexner: I thoroughly agree with everything Dr. Wolfe said in his splendid paper. While I do not wish to discuss the subject in detail, I was particularly interested in the essayist's remarks about local anesthesia. I believe he stated that in 85 per cent of cases in adults tonsillectomy was performed under local anesthesia. The question of adult tonsillectomy is very different from that of juvenile tonsillectomy, and there are many different ideas among internists and surgeons about advising tonsillectomy in adults that do not enter in children. Obstructive symptoms do not occur in adults as frequently as in children.

Many of the unsatisfactory results after adult tonsillectomy are due to infective material from the tonsils having entered the blood stream with involvement of some joint, cavity, the appendix, or whatever it may be, and of course removal of the tonsils will not eliminate the metatastic focus.

Among the methods that are depended upon for diagnostic confirmation Dr. Wolfe mentioned suction. If his statement is generally accepted, if the tonsils often contain pus which can be obtained by suction even though there is no apparent clinical evidence of infection, I will supply him with slides and will be glad to have our laboratory examine them and determine the type of bacteria present. After cessation of the acute infection, I do not believe there is much pus in the tonsils, but if present the suction apparatus will probably determine that fact. In peritonsillar abscess, where the infectious material is encapsulated, how is it possible to obtain pus by means of the suction apparatus?

While we all doubtless agree that the removal of a local focus of infection is very important, I think there should be an age limit for the performance of tonsillectomy. For example, I do not believe it would be advisable to operate 85 or 90 year old patients, who may happen to have some tonsillar trouble and take the chances of fatal complications, in these old people.

It was in 1869 that a gentleman in England first told us about focal infection from the tonsils, and the subject has been constantly studied since that time. It did not come from Chicago primarily.

Philip F. Barbour: I have seen the suction apparatus used on tonsils and it seems to be of some advantage. When purulent material is withdrawn by suction there is no longer any question about the advisability of tonsillectomy.

There are several things in children which are guides to us in advising tonsillectomy that do not obtain in adults. To me one of the most vital points in examination of the tonsils in children is the involvement of the lymph glands. The lymph glands in children are very much more sensitive to infection than are the same glands in adults. We see a great number of children with enlarged glands about the precervical and postcervical regions. In adults this is rather rare. If infection is being absorbed from the tonsils, there is practically always involvement of the lymph glands, and this is of assistance in determining the advisability of operation.

I see many children with tonsils that are fairly large, and every time the child swallows, the pillars of the fauces contract and the tonsil crypts are emptied and no infection occurs. At other times the tonsils are small and buried behind the pillars and are badly infected. The appearance of the tonsil does not always indicate whether operation should be performed or not.

Another thing that has been helpful to me in deciding there has been an infection is a pronounced change in the color over the abdomen. The skin of the abdomen up to the costal margin is distinctly more sallow or even brownish in color than the skin over the chest. This change in color is evidence of a low grade toxemia due in some cases to intestinal infection, sometimes to pyelitis but in many cases a focus of infection will be located in the tonsils. This sallow color of the abdomen simply makes us look more systematically for a focus of infection.

Removal of the tonsils does not always afford complete relief in children, and this must also be true in adults, because there are others foci of infection elsewhere.

Wilson recently collected a mass of statistics to show the effect of tonsillectomy in cardiac disease. She came to the conclusion that the removal of tonsils had no effect on heart disease, except in so far as it tended to prevent an additional infection. Many times tonsillectomy is without effect because there is some other focus of infection.

A feature which has reduced the dangers of tonsillar infection in children is that we are now making earlier diagnoses. I have no doubt quite a number of fatalities have occurred from lung abscesses which were not diagnosed. With our improved technique we can now make the diagnosis of lung abscess in most cases. In some instances, and I do not know of any explanation for it, the abscess seems to be not in the lung itself but in the hilum between the lungs. In one or two cases I have seen, the abscess was not in the lung but in the mediastinal space. A roentgenologist in St. Louis, Mo. at the meeting of the American College of Physicians presented some very beautiful roentgenograms showing location of the abscess at that point.

In children tonsillectomy cannot be satisfactorily performed under local anesthesia. It is impossible to hold the child still and in consequence the operator is greatly handicapped.

Wm. E. Gardner: Dr. Wolfe's paper has been very interesting. I have always been under the impression that tonsillectomy in the adult was attended by greater dangers than the same operation in children. This was particularly true before the method of administering general anesthetics had been perfected and before local anesthesia became popular and more successfully handled. We occasionally hear of an adult who has died following tonsillectomy from the development of lung abscess, and this has caused us to wonder whether or not there might be more serious dangers from the operation in adults than in children.

I was impressed by the statement of the previous speaker that one hundred and twenty-seven cases of lung abscess have been reported following operations in the mouth. The paper and the discussion have been very reassuring because all of us know adult patients, where we believe tonsillectomy would be of great advantage to them, and yet because of contraindications and possible complications, we hesitate about advising them to undergo this major operation. The contraindications should always be taken into consideration. I was glad to hear the essayist speak of the importance of this before resorting to tonsillectomy in adults.

Morris Flexner: There are only two or three points that I wish to discuss. In cases where a secondary growth of lymphoid tissue occurs in the throat after the old tonsillectomy, and another operation is required, should it be performed under local or general anesthesia? Would removal of this lymphoid tissue be easily accomplished by the method Dr. Wolfe has described?

Another point I would like to stress is the question of tonsillectomy in patients with an old rheumatic endocarditis. This is brought to my mind forciby at present because I have under observation two women aged about twenty years who had rheumatic endocarditis early in life. One of the patients had her tonsils removed, but afterward developed a large amount of lymphoid tissue in the throat which causes as much trouble as did the tonsils. This tissue is infected and gives rise to recurrent attacks of sore throat. She has been subjected to roentgen-ray therapy because she did not want to undergo another operation. She had a grippal infection a month ago which has not subsided. She had a low grade fever indicating a blood stream infection, although she did not look ill. Blood culture was made which showed streptococcus midans. In the other case I expect to make a blood culture tomorrow. She also has a history of an old rheumatic endocarditis. Her tonsils are badly diseased, she has fever which I cannot explain; but am confident she has a return of her old endocarditis. In patients of this type I believe we should get rid of the infection as soon as possible. If the second patient has no blood stream infection, tonsillectomy will be performed as soon as possible. The point I wish to make is that it is extremely important to keep healthy throats in people who have had a previous endocarditis.

Claude T. Wolfe, (in closing): I am very much pleased with the liberal discussion of my paper and will do my best to answer the questions asked relative to the removal of tonsils under a local anesthetic. My observation, which is corroborated by the experience of others, is that bleeding in tonsillectomy under a local anesthetic is no more than under general anesthesia. At the time of operation it usually is considerably less and only about 1 per cent of the cases have late primary or early secondary hemorrhage.

There is the remotest possibility of introducing infection into the blood stream by the novocaine injection, but fortunately this has never occurred in my experience of fifteen years. I am thoroughly convinced that the method of infiltration that I have described has its advantages. The tonsil itself is never injected, only the tissue immediately behind the tonsil and in the capsular area receives the infiltration, and the injection is best accomplished by drawing the tonsil into the pharyngeal space which permits the insertion of the needle behind the tonsil more advantageously.

The anesthesia is quite satisfactory and the average patient experiences no pain.

It is needless to state that all hemorrhage is absolutely controlled following the operation and the patient is sent to his room with a dry throat.

The question of the roentgen-ray supplanting tonsillectomy in certain cases is a debated one. My experience is rather limited. However, I am thoroughly convinced that the use of the x-ray is rather limited and could not replace tonsillectomy. Severe cardiac conditions might compel us to consider it rather than an operation because the patient might not be a proper subject for any operative procedure. Certainly, if the X-Ray is resorted to, it should be used by only the most competent as there is the possibility of burns, sterility and atrophy of any or all of the glands of internal secretions. The consensus of opinion is that the best way to get rid of diseased tonsils is to remove them.

In regard to sore throat after complete tonsillectomy, it is true that occasionally pharyngitis develops. We must remember that the removal of tonsils is not a panacea for all ailments and does not insure our patients against all inflammations that may attack the throat, but it does certainly insure them against further attacks of tonsillitis and greatly minimizes the number of attacks of an acute inflammatory nature that the pharynx is often subject to.

During the menstrual period, in my opinion, is not the best time to do a tonsillectomy. The patient, as a rule, is not feeling her best and one of the ugliest hemorrhages that we have had occurred four days after a tonsillectomy when menstruation began. It may have been a coincident, but her throat was free from infection at the time and the hemorrhage seemed to come from everywhere in the tonsillar fossae. It was necessary to close each fossa with sutures over gauze sponges.

As before stated, cocaine is never injected. We use a 10 per cent solution for topical applications only, and this is used to render painless the procedure of grasping the tonsil and drawing it into the pharynx in order to make the novocaine injections. Beck, of Chicago, uses cocaine "mud" as a topical application to the tonsil before its removal and gives three grains of luminal ½ hour before the operation as an antidote to cocaine toxemia. At the Mayo Clinic ½ of 1 per cent cocaine is injected for anesthesia for tonsillectomy and Dr Lillie personally told me that he had had no regrets in many thousands of cases operated.

I am thoroughly convinced that local anesthesia for the removal of tonsils in the adults is the one of choice. Not all patients can be operated by this method. We must choose our patients and in our experience at least 85 per cent of adults can be operated successfully under a local anesthetic. Patients can be taught to co-operate and by this we mean, regular breathing, a wide open mouth and complete relaxation. This co-operation on the part of the patient materially assists the surgeon and makes of the operation a rather simple affair.

BOOK REVIEWS

"HUMAN BIOLOGY AND RACIAL WELFARE"—By 28 authors and edited by Edmund V. Cowdry, Ph. D., Professor Cytology, Washington University, St. Louis. Price $6.00.

The editor states "This book is written for two groups of readers. First, for students who are about to specialize and can do so more intelligently after they have seen in perspective what lies ahead. This applies particularly to medical students who in order to be good physicians must above all, be good biologists. A knowledge of what is known of human life past, present and possible future, is for them essential. In the second place, it is hoped that the book will be of interest to readers of mature years occupied both in science and in business who have an inquiring turn of mind and wish to look a little below the surface." The introduction is written by Edwin R. Embree, M. C., President of the Julius Rosenwald Fund. Chicago.

The contents and contributors are as follows: Life in Space and Time, by Henry Norris Russell; Evolution Traced Biochemically, by A. B. Macallum; The Animal Ancestry of Man, by William K. Gregory; The Evolution of the Brain, by George H. Parker; Mental Evolution in the Primates, by Robert M. Yerkes; Societal Evolution, by W. M. Wheeler, Human Races, by Ales Hardlicka; The Vital Units Called Cells, by E. V. Cowdry; The Relation of Cells to One Another, by Alexis Carrell; The Integrative Action of the Vascular System, by W. B. Cannon; Nervous Integrations in Man, by J. F. Fulton; The Integration of the Sexes—Marriage, by Clark Wissler; The Effect of Climate and Weather, by Ellsworth Huntington; The Reaction of Food, by Elmer V. McCollum; The Influence of Urban and Rural Environment, by Haven Emerson; Antisocial Behavior; Delinquency and Crime, by William Healy; Adjustment of Infectious Disease, by Hans Zinsser; What Medicine Has Done and Is Doing for the Race, by Sir Humphry Rolleston; The Relation of Science to Industry, by R. A. Millikan; The Influence of Education, by John Dewey; The Inheritance of Disease, by Paul A. Lewis; Some Aspects of the Biology of Human Populations, by Raymond Pearl; The Mingling of Races, by Charles B. Davenport; The Purposive Improvement of the Human Race, by Edwin Grant Conklin; The Intentional Shaping of Human Opinion, by H. A. Overstreet. A book which would be of great value to every physician. Published by Paul B. Hoeber, Inc., 76 Fifth Avenue, New York.

DISEASES OF THE BLOOD—By Paul W. Clough, M. D. One of the most difficult chapters in medicine is that which has to do with what are called the diseases of the blood. The nomenclature is confusing, the etiology generally obscure and the treatment all too frequently hopeless. The literature of the subject is peculiarly inaccessible. One finds articles in the larger systems and text-books and numerous shorter papers are distributed throughout the periodical literature. Longer and more adequate treatises can be found in French or German but in recent times no American author has collected the information into a single volume.

Dr. Clough has performed this service for his profession. Following a brief, but ample discussion of the various types of blood cells and their origins he discusses the anemias, the leukemias and their related conditions. This is followed by an excellent chapter on blood transfusion and a section on methods of examination that contains all it is necessary for the practitioner to know.

It has been the custom in the past for physisians to divide blood diseases into two groups, anemias that should be treated with iron and conditions that are obscure and require the services of a consultant. The enormous effectiveness of liver in the treatment of pernicious anemia has popularized these conditions and it is now necessary for the practitioner to be able to make his own diagnosis if he is to maintain his standing among his colleagues.

In this book he will find all that he needs to know to recognize and treat those conditions included within this difficult group, at least when they are recognizable by ordinary means. It should prove a valuable companion to the physician in his practice.

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Kentucky Medical Journal
Published Monthly By
THE KENTUCKY MEDICAL ASSOCIATION
Incorporated

Entered as second class matter October 22, 1906, at the Postoffice at Bowlingg Green, Ky., under act of Congress, March 3, 1879.

Subscription Price $5.00
Edited Under Supervision of the Council

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1931 MEETING LEXINGTON

COUNTY SOCIETY REPORTS

Bourbon: The following resolutions were adopted at the regular monthly meeting of the Bourbon County Medical Society, held August 21, 1930.

Whereas: It has pleased an All Wise Providence to remove from our midst one of our most esteemed and worthy members, Dr. J. T. Brown, who was always ready and willing to render a service to his colleagues and to his fellowman and whose counsel and advice was always timely and good.

Therefore be it resolved:

"That in the passing of Dr. J. T. Brown the Bourbon County Medical Society has lost one of its most valued members.

"That the Community has lost one of its best citizens.

"That his clientele has lost a worthy adviser.

"That a copy of these resolutions be spread upon our minutes, and a copy sent to the bereaved family and to the Kentucky Medical Journal."

J. A. ORR,
W. C. USSERY,
WM. KENNEY.
Committee.

Clark: At at special meeting of the Clark County Medical Society, held on Wednesday, October 1, 1930, the following resolutions were unanimously adopted.

Dr. Bush was graduated from the Kentucky University Medical Department in 1905, and practiced his profession in Winchester from that time until a few days before his death.

He was a member and former president of the Clark County Medical Society, and a member of the Kentucky State Medical Association and the American Medical Association.

In view of his long and honorable career in Winchester, and the high esteem in which he was held by the Clark County Medical Society;

Resolved, that this Society would go on record as follows:

"That in the death of Dr. Bush Winchester has lost one of its most valuable, useful and leading citizens, and

"That the Clark County Medical Society, by his death, has been deprived of a member of the first rank and the medical world of one who added dignity to that profession, and

"That the members of this Society, in his home-going, have lost a faithful friend, wise colleague and loving comrade. Now, therefore, be it resolved,

The Clark County Medical Society notes with the most profound regret the death of Dr. William Allen Bush, which occurred on Sunday, September 28, 1930, in the sixty-first year of his age.

"That these resolutions be spread upon the minutes of the Society and a copy be furnished the Kentucky Medical Association, the local press and his bereaved family.

"GEORGE F. DOYCE,
Secretary.

Nelson: The Nelson County Medical Society was host to the physicians of the Fourth District at a Councilor meeting.

Dr. J. J. Wakefield presided and the following were present at the meeting and banquet: R. H. Greenwell, Bardstown; J. J. Wakefield, Bloomfield; D. W. Gaddie, Hodgensville; H. S. Harned, Boston; E. T. Mahan, Fairfield; D. E. McClure, Elizabethtown; J. I. Greenwell, New Haven; Lillian H. South, Louisville; C. K. Bush, Irvington; T. B. Nichols, C. F. Long, Bardstown; F. P. Strickler, Louisville; D. L. Hill, Louisville; V. Carras, Munfordsville; J. M. English, Elizabethtown; R. E. Teague, Bardstown; G. W. Kirk, Sheperdsville; G. B. Hill, Mt. Washington; J. F. Furnish, Taylorsville; R. F. Porter, Caneyville; S. N. Brooks, Sheperdsville. Guests were: Mrs. Allen Carter, Mrs. Frank P. Strickler, Mrs. Henrietta Henning, Master Carter Strickler, Louisville; Mrs. C. K. Bush, Irvington; Mary Lee Brooks, age 4 months, Sheperdsville; Mrs. D. E. McClure, Elizabethtown; Mrs. J. I. Greenwell, New Haven; Mrs. S. N. Brooks, Sr., Mrs. S. N. Brooks, Jr. and S. N. Brooks, III., Sheperdsville; Mrs. R. H. Porter, Caneyville; Miss Myra Gaddie, Technician, Evanston, Illinois; Mrs. C. K. Bush, Sr., Irvington.

Dr. D. L. Hill, Louisville, gave a very interesting paper in the Latest Medical Treatment of Gastric Ulcer, which was discussed by all the physicians.

Dr. Frank P. Strickler, Louisville, gave a daylight polychrome moving picture of the "Operation For Goiter Under Local Anesthesia." This splendid picture was taken with a telescopic lense and was very interesting and instructive and Dr. Strickler is to be congratulated in securing such a good exhibition of this subject.

Dr. L. H. South, Louisville, State Bacteriologist, gave a talk on the "Laboratory Diagnosis of Scarlet Fever" and showed the proper container for obtaining and sending specimens to the State Laboratory.

A banquet was served at the New Kentucky Hotel, Dr. J. J. Wakefield introduced the Councilor of the Fourth District, Dr. D. E. McClure, who gave a very brilliant, witty and entertaining talk on the Problems Facing the Medical Profession.

Dr. D. W. Gaddie, of Hodgensville, spoke on the Pictures In the Annual Number, which caused a lot of merriment.

Everybody enjoyed the program and banquet and universal praise was voted to the Nelson County physicians for this splendid meeting.

R. H. GREENWELL, Secretary.

Letcher: The Letcher County Medical Society met for its regular monthly meeting at the Club House of the Consolidation Coal Company in Jenkins on Friday evening, August 22nd.

Before the business session the Consolidation Coal Company entertained the members at a very elaborate banquet, having as their other guests the wives of the members, a number of visiting doctors, the county nurses, and the local officials and nurses of the Coal Company. Dr. Shepherd, chief surgeon of the Jenkins Hospital and president of the society, presided.

The program for the meeting was:

Syphilis and its Treatment, Dr. R. L. Kelley, Louisville.
Discussion of Lecture, Dr. Fred W. Caudill, Hazard.
Head Injuries, Dr. A. G. Rutherford, chief surgeon of Welch, W. Va. Hospital.
Discussion, Dr. M. D. Garred, Ashland, Dr. E. F. Shepherd, Jenkins.
Summer Diarrhoeas, Dr. W. W. Nicholason, Louisville City Hospital.
Round Table Discussion.

The following enjoyed the occasion: Dr. and Mrs. W. H. Lawson, Jenkins; Dr. and Mrs. A. J. Rutherford, Welch, W. Va.; Dr. and Mrs. E. F. Shepherd, Mr. Walker Jordon, Mr. and Mrs. S. J. Berlin, Dr. E. T. Arnett, Miss Margaret Ashworth, Dr. T. M. Perry, Dr. T. D. Vaughn, Jenkins; Dr. R. D. Collins, Dr. and Mrs. B. C. Bach, Dr. and Mrs. Thomas Jennings, Dr. J. E. Crawford, Dr. T. R. Collier, Dr. J. W. Combs, Whitesburg; Dr. W. W. Nicholason, Louisville; Dr. R. L. Kelly, Louisville; Dr. L. S. Hays, Louisa; Dr. and Mrs. W. F. Cox, Mr. and Mrs. D. A. Reed, Dr. and Mrs. B. O. Bryson, Dr. and Mrs. J. E. Stanfill, Jenkins; Miss Grace Wells, Whitesburg; Miss Marie H. Orr, Jenkins; Dr. H. R. Scaggs, Flem[illegible] Mr. and Mrs. W. C. Holbrent, Jenkins; Dr. Owen Pigman, Sergeant; Dr. D. V. Bently, Neon; Dr. B. F. Wright, Seco; Dr. T. R. Caudill, Hazard; Dr. and Mrs. J. E. Harper, Mrs. Clark Herington, McRoberts; Dr. A. M. Radcliffe, Kona; Dr. W. M. Milliard, Kona; Dr. H. J. Gibson, Akron, Ohio.

R. D. COLLINS, Secretary.

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VOL. 28. No. 12 BOWLING GREEN, KY., DECEMBER, 1930

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Editorial and Business Office, 519 Tenth Street. Subscription Price, $5.00; Single Copy, 50 cents
Entered as second-class matter, Oct. 22, 1966, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rates postage provided for in section 1103, act of October 8, 1917, authorized May 25, 1920
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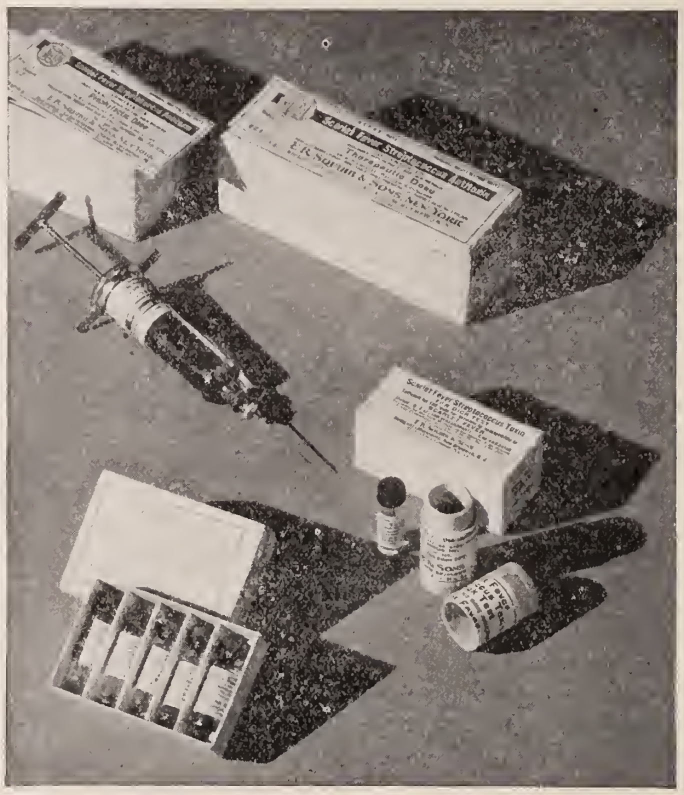
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Published Under the Auspices of the Council

VOL. 28 No. 12 BOWLING GREEN, KY., DECEMBER 1930

EDITORIALS

SOUTHERN MEDICAL ASSOCIATION MEETING.

The medical profession of the South, as represented in the Southern Medical Association, and their women, as represented in its Auxiliary, made Kentuckians very happy during November by holding their annual sessions with us. The scientific program was a continuous post-graduate course and one's only regret was that there were so many splendid essays being presented at one time that one could only hear a few of them.

Naturally, it was the editor's privilege of attending the sessions of the Public Health Sections and those of the National Committee on the Prevention of Malaria. It was of interest that there was a larger attendance of health officers at these sessions than at the recent meeting of the American Public Health Association in Fort Worth. The excellent programs, arranged by Doctors Blackerby and Mountin and Mr. LePrince, left nothing to be desired. Our readers, who are also members of the Southern Medical Association will get all of them and the other proceedings in the pages of the Southern Medical Journal, which should be read by every physician in the South.

The scientific and commercial exhibits were of the highest order. It would be invidious to compliment any of them because of the high excellence of all, but we Kentuckians took a special pride in the joint exhibit of the State Board of Health and the Health Department of Berea College, demonstrating the exact methods and technique for the control of Scarlet Fever.

Under the Chairmanship of Dr. C. W. Dowden, the Section on Medicine was filled with interest. The large Auditorium was crowded and the essays and discussions were of an unusually high order of excellence.

Dr. C. A. Vance, of Lexington, presided with his usual efficiency and dignity over the Session on Surgery. The demonstrations of this Section were worthy of Southern surgeons.

Upon Dr. W. Hamilton Long, as President of the Jefferson County Medical Society, and Dr. Virgil E. Simpson, as Chairman of the Committee on Arrangements, fell the responsibility for the arrangements for the meeting. As might have been anticipated, these came up to the high order of excellence expected of them.

At the final session, Dr. Felix Underwood, the distinguished Secretary of the State Board of Health, of Mississippi, was elected President and Dr. W. Hamilton Long was made First Vice-President. The physicians of Kentucky feel especially honored in this recognition of one of our most zealous and faithful members.

The Kentucky State Medical Association hopes that the Southern Medical Association will come to Kentucky again in the near future.

THE McDOWELL STATUE.

It is quite as impossible to add to the laurels of Dr. Ephraim McDowell as to take away from them. But the Kentucky State Medical Association, assisted by the Southern Medical Association, together with their respective Woman's Auxiliaries, added laurels to the medical profession in the Rotunda of the Capitol at Frankfort, November 15, by the unveiling of the sculptor's model of the heroic statue of Dr. Ephraim McDowell, a personal gift from the sculptor to Dr. A. T. McCormack, who had generously given it to the Kentucky State Medical Association.

The unveiling ceremonies were under the direction of the sculptor, Mr. Charles Niehaus, of Grantwood, N. J.

The sponsors were the President of the Kentucky State Medical Association, Dr. W. B. McClure, Lexington, and the President of the Woman's Auxiliary, Mrs. E. B. Houston, Murray; the President of the Southern Medical Association, Dr. Felix Underwood, Jackson, Mississippi, and the President of the Southern Medical Auxiliary, Mrs. S. A. Collom, Texarkana, Texas.

Old Scotch airs, sung by Miss Marcella Uhl, accompanied by the harp and violin, preceded the ceremonies and seemed to bring back the Scotch-Irish Spirit of McDowell, who loved to play the fiddle and sing the old songs.

The address, "Ephraim McDowell— the Matured Product of His Labors," by Dr. George A. Hendon, Louisville, was followed by a brief address, "Jane Todd Crawford— the Model Patient," by Mrs. P. E. Blackerby.

During the conclusion of Mrs. Blackerby's address a counterpane, which, according to family tradition, was made by Jane Todd Crawford, was exhibited. This had been loaned by the Rev. H. Gordon Wise, Pastor of the First Presbyterian Church of Greensburg, who secured it from Mr. Charles Hatcher, a member of the Crawford family. It is said that Jane Todd Crawford planted the seed, cultivated the cotton, picked the cotton, picked the seeds out of it, carded the cotton, spun into thread, wove it in two large and one narrow strips, sewed it together; made the lace, knotted the fringe, sewed the lace on the three edges and thus completed this counterpane, under which she and her family are said to have slept down to the fourth generation, which now possesses it.

"The Good Shepherd," an arrangement of the Twenty-third Psalm, sung by Miss Uhl, breathed the faith, courage and reverence of both the pioneer surgeon and his patient.

The statue was presented to the State by the Secretary of the Kentucky State Medical Association, Dr. A. T. McCormack, and was graciously accepted by Governor Flem D. Sampson.

The singing of 'Auld Lang Syne,'' by Miss Uhl, with the audience joining in the chorus in true Caledonian style, hands clasped across breasts, brought the exercises to a close.

The Rev. Hervey McDowell, Pisgah, a descendant of Dr. Ephraim McDowell, pronounced the invocation and benediction. Several members of the McDowell family were present, some of them from other states.

HOW OLD IS OLD?

Methuslah was 969 years old when he died; the poet Chatterton only 18.

What does it mean to be old? How old is old, anyhow? When are we old?

Perhaps it is reduced earning capacity? American industry scraps its men and women at forty. But age doesn't necessarily have anything to do with productivity. Some of the finest things in the world came from so-called "old people." Michael Angelo, Sidney Cooper—they painted some of their best works just a short time before they died. Titian was painting with "incomparable steadiness of hand" until the day of his death at the age of ninety-nine. Goethe retained his creative energy unimpaired until his death.

Senility? Most of us loathe the prospect of continued ill health, greatly impaired powers, loss of vitality and personality. We wouldn't mind senescence so much—normal old age with its limitations due to atrophic changes in the body; but we shudder at senility—those manifestations in the elderly of past infections and diseases. Eli Metchnikoff attributed the senile accompaniments of advanced years to pathological and preventable causes. What are pathological and preventable causes? The Encyclopedia Brittanica speaks with a voice of authority:

"The various parts of the body do not all grow old at the same time, but when these changes are much more advanced in some vital organ than elsewhere the proper harmony of the system is so disturbed that the condition becomes pathological, and then instead of a happy, healthy, pleasant old age there is the picture of incapacity, pain and misery."

So we needn't be old after all! How can we prevent senility? Most of us exercise too little, get insufficient rest, live too hard and fast, drink too little water, eat too much, do not recognize disease until it has become chronic and almost incurable. Yet from time immemorial our sages have been trying to teach us differently. Some of the most famous sayings in the world are simply rules for retaining health and increasing pleasurable longevity. Statisticians say that the majority of centenarians eat sparingly. Montaigue writes:

"Man does not die, he kills himself."

And don't you remember Cowper's couplet runs:

"Men deal with life as children with their play,
Who first misuse, then cast their toys away."

The present age demands precise and organized work, such as medical research, the maintenance of hospitals, sanatoria and clinics, and also the education of children in the schools. Such definite measures as these appeal to the practical American mind, and it is just this type of work which is financed by the annual sale of Christmas seals in the fight against tuberculosis. The effectiveness of this present-day mode of promoting a healthy, long life and fighting disease is evidenced by the gradually diminishing death rate of tuberculosis during the two and a half decades in which this method has been used.

The results are encouraging. However, tuberculosis still kills more persons between the ages of 18 and 40 than any other ailment. It is still the outstanding preventable, but as yet not wholly prevented, disease problem.

The Christmas Seal Campaign, under the sign of the double-barred cross, fights disease, establishes the means to promote good health, points the way to healthy old age. It preaches a gospel of sunshine, fresh air, rest and nourishing food, both as preventive and curative agents.

"Medicine out of the earth, the sky, the sea, makes getting well a pleasure, and keeping young and vivid almost automatic." To this task the Kentucky Tuberculosis Association has dedicated its forces. The Christmas Seal is its official messenger—its only means of support. Join the ranks and help save Kentuckians for Kentucky.

THE INDEX.

In this issue of the JOURNAL, will be found the elaborate and complete Index for the 1930 Volume. It will be noted that the contents of this volume are indexed by subjects and cross indexed by Authors, so that each of our members can see just how much he has contributed to the value of the JOURNAL. If you have not done your share this year, will you not help some during 1931.

A NEW BACTERIOLOGY

Williams, and Krumwiede's ninth edition of Pathogenic Microorganisms, represents a consummation of many years of experience and pioneer work in the field of bacteriology. Every physician who does diphtheria work should be deeply grateful to Dr. Park, for, through his indefatigable labors he has given to this subject, he has been able to give a technic for its prevention that is workable. While no busy practitioner can accurately perform the various laboratory procedures for the detection of pathogenic bacteria, yet they should know how to evaluate the laboratory reports and should be familiar with behavior of the various disease producing germs. Many new subjects have been introduced, as Tularemia, Undulant Fever, and Bacteriophage. We recommend this volume to our readers for it is a mine of information carefully compiled by experts who have a thorough and practical knowledge of the subjects they present.

Treatment of Rickets with Viosterol.—Schippers employed viosterol in a number of infants with rickets and secured excellent results. He found that measles had a very unfavorable influence on rickets and delayed the action of viosterol. In one case in which bronchopneumonia had preceded the onset of rickets, the action of viosterol was more rapid than in the case of measles. Cranial rickets yielded rapidly to the treatment. The author holds that viosterol should be given only on the basis of definite indications; for instance, when cod liver oil with phosphorus is not well borne (eczemas, strophulus, intestinal disturbances) or when children stubbornly refuse to take it, which he finds is seldom the case.

SCIENTIFIC EDITORIAL

CARBOHYDRATES IN THE DIET OF THE DIABETIC.

Extension of the term of life of the diabetic resulting from better understanding of the disease and, particularly, from the introduction of insulin is demonstrating more and more the role of arteriosclerosis in the natural history of diabetes. In the experience of Joslin[1] the average age of these patients at death approaches sixty years in contrast to forty-four years sixteen years ago.

As a result of this extended span of life arteriosclerosis has the opportunity to declare itself and, with the growing infrequency of death from coma, arteriosclerosis is left as the most frequent cause of death in the diabetic.

Warren[3] reports, in a series of 300 autopsies, that in no instance in which the disease had existed as much as five years was arteriosclerosis absent. One may accept the view of Newburgh[4] that the increased lipaemia is related to total intake of food or that of Shepardson[5] that the key to the situation is the oxidation of larger amounts of carbohydrate, which serves to lower the blood lipids. In either case there seems no doubt that the conclusion of the latter is correct that "altered fat metabolism is the morbific factor in the development of vascular disease in association with diabetes mellitus."

It seems timely to call attention to the importance of a relatively liberal carbohydrate diet in combatting this menace to the diabetic. Too often the amount of this is limited to the tolerance of the patient unaided by insulin, the use of the latter being avoided because the urine can be kept sugar-free and the blood sugar within bounds by a small carbohydrate intake; the advantage of better metabolism of fat as well as of carbohydrate by the use of sufficient insulin to utilize a liberal amount of the latter is either lost sight of or disregarded.

Three years ago Joslin[2] discussed the subject and in a recent paper[1] goes even further in advocating the use of amounts of carbohydrate larger than those commonly used. Nearly all of his children and practically all of his adult patients get one hundred grams or more per day. A patient who, in 1922, left the hospital without insulin with seventy-one grams of carbohydrate now goes out with one hundred and forty-seven grams per day.

He says: "If our diets approach the normal, while diabetic symptoms are held in abeyance by insulin and exercise, our diabetics should live as long as the average individual."

These and other similar expressions show their influence in the large amounts of carbohydrate now given compared with those commonly used a few years ago.

Assuming, of course, that accuracy, both in prescribing and measuring the diet, will not be relaxed the use of insulin should not be confined to the patient of very low carbohydrate tolerance. It has a wider usefulness in enabling those of higher tolerance to approach the relatively high carbohydrate of the normal individual.

John W. Scott.

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3. Warren, Shields—quoted by Joslin, E. P. loc. cit 1.
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PRESIDENT'S ADDRESS

W. B. McClure, M. D.

Lexington.

In casting around for a suitable subject to talk about on this occasion, we concluded that it would be well to talk about ourselves; to review the annuals, and retrace the stages of growth of our organization from infancy to maturity, and try to find in the experience of generations that have passed away, lessons which may be profitable to us today.

During the 79 years of our existence much medical history has been made, and tremendous events have transpired, that would be of interest to the present day doctor had we the time to enumerate them.

In the year 1851 the Kentucky State Medical Society was organized and Dr. William Loftus Sutton of Georgetown, was elected President.

All honor to that little band of pioneer doctors who had a vision and courageously translated that vision into a pulsating reality.

There is little record of the doings of the society during its early years. They held yearly meetings however until 1860-61, when due to troublous times caused by Civil War, the meetings were discontinued until 1867. Since which time there has been no intermission.

The growth in membership fluctuated owing to the fact that membership was dependent upon voluntary payment of dues.

We note that as late as 1895 there was a membership of only 367.

Our Association has been in the past both helped and hurt by legislative enactment. The first effort at legislation was in 1851 when a Vital Statistics Bill was passed. Then again in 1861 a Medical Practice Act was passed. Under this law District Examiners were appointed by the Governor. So far as protection to the profession was concerned, this plan was a total failure.

In 1878 a bill was passed creating a State Board of Health. Then in 1888, amended in 1893, our present Medical Practice Act was passed and the State Board of Health took over the duties formerly discharged by the District Examiners.

In contrast with present day pep and enthusiasm the meetings of the Society previous to the reorganization in 1902, were tame affairs. We refer to the scientific work and not to the political activities, which were always bubbling over.

From the minutes of the 1893 meeting held at Frankfort, we gather the following information.

Report on Bacteriology by Dr. Louis Frank. Read by title Dr. J. G. Carpenter. The Conservative Surgery of Today, no discussion. Dr. Wm. Cheatham. Intubation, no discussion.

Dr. J. Fulton Purdom read a paper on Typhoid Fever, no discussion. Can you imagine any of those papers getting by today without being discussed.

At the same meeting the report of the Treasurer, Dr. J. B. Kinnaird, furnishes illuminating evidence of what to them was "a sound financial basis."

The Kentucky State Medical Society is now upon a sound financial basis and our prospects are growing brighter, etc.

We beg to submit the following report:

Receipts	$822.75
Disbursements	814.08
Secretary's Salary	100.00
Balance in Treasury	8.67

With the reorganization in 1903, a new life came to our Association, and we have grown in strength and influence, until today, we occupy a vantage ground never before attained in our history. The present day doctor is a leader of thought and civic activities in his community, a leadership that justifies the eulogy pronounced by Robert Louis Stevenson when he says:

> "There are men and classes of men that stand above the common herd, the soldier, the sailor, the shepherd not infrequently, the artists rarely, rarer still the clergyman, the physician almost as a rule. He is the flower of our civilization and when that stage of man is done with, only to be marvelled at in history he will be thought to have shared but little in the defects of the period and to have most notably exhibited the vir-

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*Delivered before the Kentucky State Medical Association, Bowling Green, September 11-14, 1930.

tures of the race. Generosity he has, such as is possible only to those who practice an art and never to those who drive a trade. Discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are more important, Herculean cheerfulnesss and courage. So it is that, he brings air and cheer into the sick room and often enough, though not so often as he desires, brings healing."

Our present security therefore is such that it would seem that our future tranquility were assured. But, let us be honest with ourselves and look facts squarely in the face. To me there seems to be a cloud on the distant horizon and that man must be blind indeed who does not see for our profession a troubled future.

In fact we have already acknowledged to ourselves the possible danger ahead. And upon the temper and tone in which we approach the solution of the problems which now confront us depends our security; the continued respect and confidence of the public, and maintenance of those high ideals bequeathed to us by those who have gone before.

During the past ten years more than 300 doctors have been indicted, charged with violating the laws of our country. How can this appalling situation exist along side of so much which is splendid and noble?

This distressing condition would seem to justify the report of our Council last year, in which it states:

"Again this year a considerable number of physicians have been convicted in the State or Federal courts for violation of the narcotic or prohibition laws.

The Council finds that the administration of these laws, which are approved by a vast majority of the physicians of Kentucky, has been made unnecessarily irksome to the competent, honest, self-respecting members of the medical profession by their violation by the very small minority who have continued to ignore their plain purposes and provisions.

It is with regret that the Council notes the reports of the Federal authorities that they are finding frequently prescriptions for alcoholic beverage signed by physicians who have not only not examined these patients, but they have not infrequently been issued in fictitious names, and that, in some instances, these prescriptions were filled for the physicians themselves. Such action is a breach of trust that is absolutely inexcusable and any member of our profession who prostitutes the duty imposed upon him by law, of determining whether medicines containing alcohol **shall be used in the treatment of disease,** deserves no sympathy when he is indicted and imprisoned."

This report was unanimously approved by the House of Delegates.

Another warning was sounded at the Crab Orchard meeting, when the Committee on Medical Ethics reported as follows:

"There is another matter which your Committee approaches with a good deal of diffidence because it is a rather delicate matter, but your Committee feels that there are some matters in which the higher standing members, the members of higher character and who have an influence in the community, are to some degree guilty of breaches of medical ethics which they don't really think of as breaches of medical ethics. I refer particularly to the violation of the Volstead Act by the doctors. Your Committee thinks that the violation of the Volstead Act is just as truly a violation of medical ethics as anything. If a man obtains whiskey for his own use it is just as much a violation as if he sells a prescription to somebody for $3.00. The men of any standing in the profession would scorn the idea of selling a prescription for whiskey. I don't believe it is done by men of standing except by those who don't realize it, and your Committee has the idea that such men of character and influence and standing in the community are known by the community to violate the act, particularly in the writing of prescriptions for their own use and in what your Committee thinks is equally a violation of the Volstead Act in the use of the famous six pints of liquor for personal consumption.

"In the opinion of your Committee this is not a question of temperance, it is not a question of whether or not the use of alcohol is desirable or undersirable or whether a man ought to or ought not to get drunk; it is not a question primarily of the observance of law, but it is a question of the man who violates this law taking advantage of the fact that confidence has been reposed in him as a member of this profession and that certain privileges have been granted to him as a member of this profession, and when he does not live up to the law in the use of those privileges he is in a sense prostituting his professsion.

"I guess this will meet with very severe condemnation in some quarters, but your Committee feels it ought to make that statement.

The Secretary: I would like to move that the House of Delegates approve the report of the Committee very enthusiastically and endorse every statement that Dr. Scott, as Chairman, has made for it.

The motion was seconded and carried **unanimously."**

So it would seem that we as an organization have given recognition to the fact that our conduct was not above suspicion.

From so high an authority as Dr. Arthur Bevan we quote the following:

"The medical profession, as a whole, recognize this fact, and support the constitution and the amendments. On the other hand, a noisy active minority of the medical profession are taking advantage of certain provisions of the amendment and selling their souls for a mess of pottage.

"The United States government, in framing laws under which the prohibition amendment functions, made liberal provision for the use of alcoholic liquors as medical agents, so that these could be prescribed by the members of the medical profession who think that such alcoholic liquors are of value in the treatment of disease. The government regulation permits a physician to prescribe 100 pints of whisky to his patients every three months, or 400 pints a year. In addition, he can secure 12 pints of whisky and 5 gallons of pure grain alcohol each year to be used in his office work. The 5 gallons of pure grain alcohol does not have any special value as a sterilizing agent or as an external application over denatured alcohol, which can be purchased for a small cost. This could be used, and is used, largely as a beverage. Diluted with an equal part of water and with a little juniper extract, this makes synthetic gin, and from the 5 gallons 80 pints of this synthetic gin can be made. In total, the government has made it possible for a physician to prescribe for his patients 400 pints of whisky through his prescription books, 12 pints of whisky in his office and 80 pints of synthetic gin—a total of 492 pints of alcoholic liquor a year.

"Previous to the time of the Volstead Act, honest physicians in general practice never prescribed 100 pints of whisky to their patients in a period of three months. I have practiced medicine for many years and I have never prescribed whisky except to a patient threatened with delirium tremens to tide him over, and I have not had a case of delirium tremens in my work since prohibition has been in force. At the Presbyterian Hospital, the drug room has not issued a single bottle of whisky since prohibition, and we take care of more than 12,000 patients a year. We do not have any regulation against the use of whisky as a medical agent."

This problem has become a serious one because, in the propaganda against prohibition, a well organized group in the profession, in spite of the liberality of the government in regard to the amount of whisky which the medical man can prescribe for patients, has taken the position that the amount should not be limited and the physician should be permitted to prescribe any amount which he deems necessary.

Now we are not fighting a battle either for or against prohibition, we are not contending that the Volstead Law is just what it should be, but we are most earnestly contending that as good citizens we can do no less than obey the laws of the land which our forefathers have struggled at great sacrifice to establish, and frown upon any and all schemes to evade its honest enforcement.

Now we trust that you will not consider this admonition as the raving of a temperance fanatic, but rather as the expression of an earnest desire that the profession which lies close to our heart, shall avoid the pitfalls which surely lie ahead of us.

ORIGINAL ARTICLES

CHOLECYSTOGRAPHY: A REVIEW OF THIRTY-FOUR CASES WITH OPERATIVE FINDINGS*

D. B. Harding, M. D.

Lexington Clinic, Lexington.

Graham and Cole have emphasized that the so-called Graham-Cole test was developed primarily to study gall-bladder function. Their hopes of finding out something about gall-bladder disease, by means of this functional test, were justified, for several years experience has proved that it is an extremely valuable aid in the diagnosis of cholecystitis and cholelithiasis. Many series of cases have been reported, in which the diagnostic accuracy was well above 90 per cent. These figures are supported by the following report, in which the roentgen diagnosis was correct in 97 per cent of the cases.

This high degree of accuracy should of course be questioned, and a careful study of the individual case records shows a potential error which, largely by chance, permitted this percentage of correct diagnosis in our series.

A review of the case records of 34 patients, who had both cholecystography and gall-bladder surgery, presented an interesting study. The cases were consecutive, but were chosen from a group of surgical operations on the gall-bladder, all cholecystectomies, so that the condition of the gall bladder could be established as definitely as possible. This eliminated almost all of the group of cases in which the x-ray examination showed normal cholecystograms. But without sufficient clinical evidence of gross pathology to justify gall-bladder surgery, and in consequence no tissue examination, an exact determination of gall-bladder disease could not be obtained. Because of this, the study was limited to the cases as above mentioned. But the findings in this group give an excellent evaluation of the Graham-Cole test, and reveal some of the possible errors to be borne in mind by the clinician who sums up history, physical findings and laboratory tests to arrive at a final diagnosis.

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*Read before the Fayette County Medical Society.

There were only two cases in which a normal response to the Graham-Cole test was reported. In one of these, the gall-bladder shadow was of normal density, but multiple films showed a somewhat variable contour. In one film, the gall-bladder outline was perfectly normal. Because of the normal density, the remaining films showing apparent deformity were disregarded, and a negative diagnosis was made. At operation, multiple adhesions around the gall-bladder were found, and a cholecystectomy was done. The pathologist's report on the gall-bladder was "no inflammation." Undoubtedly the so-called adhesions noted in the operative report were anomalous peritoneal bands, developmental in origin, and bore no relation to an inflammatory process.

Here the roentgen diagnosis was based on the findings in one film, in spite of the fact that others showed an apparently abnormal shadow. It may be argued, and perhaps correctly so, that a diagnosis of adhesions should have been made. The gross findings at operation will support this contention. But the normal function of the gall-bladder was considered more important than the inconstant deformity.

The other case in this group presented an error in diagnosis. Cholecystography showed a gall-bladder shadow of only moderate density. The question arose as to whether this was due to less than normal concentration of the dye, but it was finally decided that the density of the shadow was within normal limits. The outline of the gall-bladder was normal in all films. At operation the gall-bladder was adherent to the omentum, but was otherwise grossly normal. A cholecystectomy was done, and microscopic examination of the tissue showed a moderate degree of inflammation.

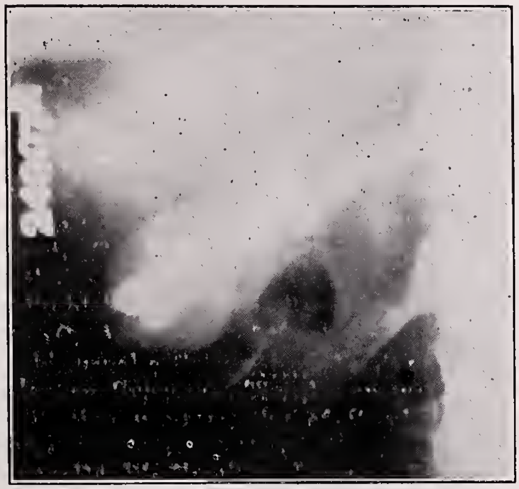

Fig. I. Gall bladder shadow normal in outline and density. Two opaque stone shadows visible. Ten stones found at operation.

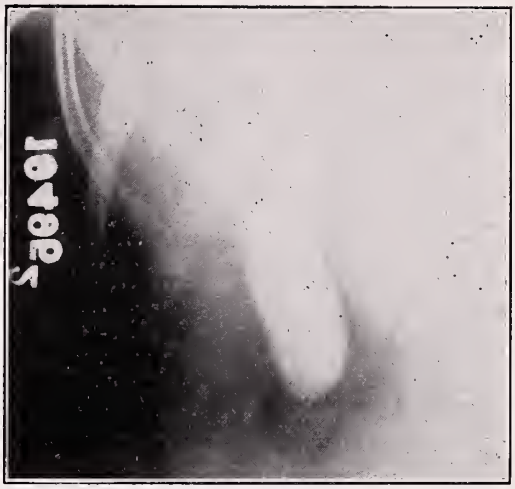

Fig. II. Gall bladder shadow normal in outline and density. (See Fig. III).

In the next group were six cases, all of which showed gall-bladder shadows normal in outline and density. The presence of stone shadows was the only evidence of pathology, and they would have been reported as normal cholecystograms otherwise. One presented two opaque stone shadows (Fig. I), but at operation about ten stones were found. A review of the films in this case showed no suggestion of more than the two stones first noted. In another case, the Graham-Cole test was done twice. The first was perfectly normal (Fig. II), but the clinical evidence indicated gall-bladder disease so strongly, the x-ray examination was repeated. The second test again gave a gall-bladder shadow of normal density, but multiple non-opaque stone shadows could be distinguished (Fig. III). The remaining four cases presented gall-bladder shadows with normal concentration of the dye, but with multiple stone shadows. In this group of six cases, pathological examination of the gall-bladders revealed cholecystitis, varying from slight to moderate. A slight degree of cholecystitis would not be remarkable, but it is surprising that three of the six gall-bladders in this group showed normal concentration of the dye, in spite of definitely more than slight inflammation. However, these changes were largely microscopic, as the gross examinations revealed very little evidence of disease.

In the next group of eleven cases, cholecystography showed gall-bladder shadows of less than normal density. This varied from very faint shadows to only slightly less density than normal. Stone shadows, opaque, and non-opaque in type, we re-demonstrated in all but three. Pathological examination of the excised gall-bladders showed inflammatory changes varying from slight chronic catarrhal cholecystitis to marked diffuse cholecystitis. Those having less extensive inflammation were the gall-bladders which showed more nearly normal concentration of the dye.

In the remaining group of 15 cases, no concentration of the dye in the gall-bladder was demonstrated. In three, opaque stones were shown by the x-ray examination. At operation stones were found in all but one of the 15 cases. In this group, the gall-bladders showed gross evidence of inflammation, as well as rather marked cholecystitis microscopically.

SUMMARY

In a series of 34 cases in which cholecystography was done, the final roentgen diagnosis in all but one was proved correct by operative findings and pathological examination.

One definite error resulted from the incorrect interpretation of a gall-bladder shadow of slightly less than normal density.

Another error was prevented by a repeat examination, which demonstrated a functioning gall-bladder containing stones that were not shown by the first test.

In six cases, reported pathological gall-bladder with stones, normal concentration of the dye was found and the diagnosis was based only on the presence of stone shadows. Examination of the excised gall-bladders revealed definite cholecystitis in all six cases.

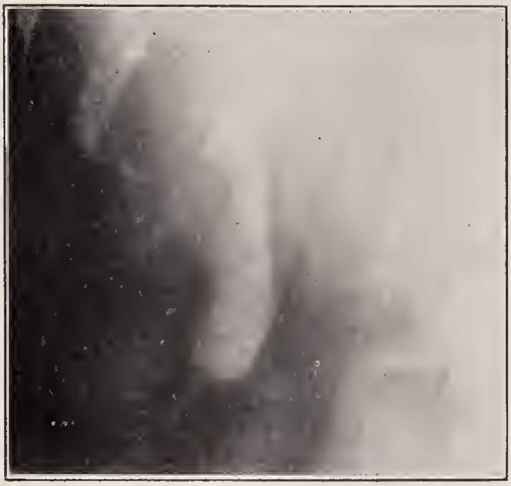

Fig. III. Normal concentration of dye. Multiple non-opaque stone shadows visible. Multiple stones found at operation. (Same case as Fig. II.)

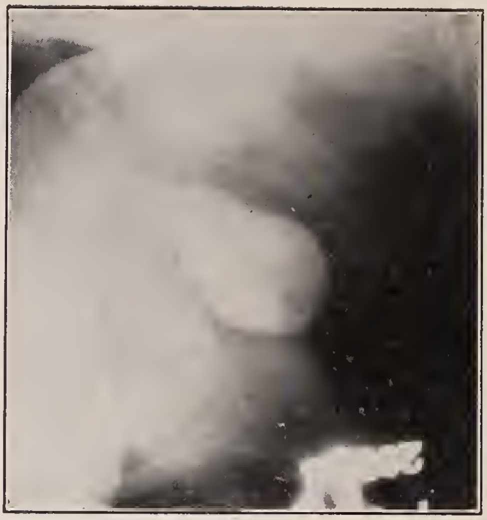

Fig. IV. Very dense gall bladder shadow with three non-opaque stone shadows visible. Three stones found at operation.

CONCLUSIONS.

Normal gall-bladder function, as shown by the Graham-Cole test, can occur with a moderate degree of cholecystitis.

The roentgen diagnosis of gall-bladder disease, based on cholecystography, shows a high percentage of accuracy.

Negative findings are subject to a considerable degree of error.

Acute Pulmonary Edema During Pregnancy and Labor.—The case reported by Bonn did not present a blood pressure extraordinarily high and the albuminuria and edema of the feet were of a transitory type. The prompt appearance of the acute pulmonary edema, after the amniotic sac ruptured, suggests a casual relationship perhaps as regards either an embolus or a shower of emboli. Bonn suggests that, because of the high mortality of this condition, a patient who has survived a previous attack of acute pulmonary edema occurring during pregnancy, labor or the puerperium, and who has again become pregnant is entitled to a therapeutic abortion. A tubal sterilization at the time of the abortion or later, as circumstances dictate, is also indicated. When acute pulmonary edema occurs during pregnancy or labor and the blood pressure is not unduly high, morphine is indicated. Under like conditions but with a high blood pressure, venesection is to be done. With either of the preceding conditions present, at the first sign of improvement, slight though it may be, the uterus should be emptied. For those cases near term or in labor, the procedure of choice is a classic Cesarean section under local anesthesia, performed at the slightest evidence of improvement

ACHYLIA GASTRICA*

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By this term I mean to discuss those cases which show a consistent absence of hydrochloric acid as well as an absence of enzymes. So frequently the term is used loosely and reference is made to subacidity which shows low acid, with lowering and not absence of enzymes or anacidity which is an absence of hydrochloric acid but enzymes present in normal amount. We might well consider these as progressive states but in a paper of this type it is my desire to take true achylia alone and stress the importance of more thorough differentiation of the cases that show this condition.

Achylia is a pathological condition both as regards the stomach and also as a functional and organic condition of the body. No case should be so analyzed until fractional test meals have been carried to at least the two hour period and some authorities would have it carried to the two and one-half hour period.

Also some definite limit should be set for the total acidity and as a reasonable figure I prefer to limit the total acid to the titratable figure of 30, this being even higher than the majority of cases and more frequently 20 or less is the height of the total acid curve.

With this definition of the type of cases we wish to discuss it is more important to first have some idea of the symptoms in order that we may be able to find such cases and not let them continue with their symptoms until they are dissatisfied and drift from one doctor to another. Most cases when they are found give histories of long periods of trouble but never a test meal study. Of course the ideal method is a fractional test meal on all gastro-intestinal cases whether they are classified as such from the symptoms or from the clinical findings. However this is not done routinely and a few of the more frequent complaints can be classified. Most commonly these patients have epigastric fullness, pressure, eructation, anorexia, diarrhea, intestinal disturbance, occasional nausea, headaches and great nervousness. Also there is more or less disturbance in general health with mild invalidism or susceptibility to disease. Einhorn makes a classification into the following groups:

(1) Those with no symptoms and in good general health

(2) Those with gastric symptoms

(3) Those with marked intestinal disturbance

(4) Those with combined gastro-intestinal upsets

(5) Those with general symptoms of debility, anaemia, quick exhaustion, etc.

For many years we have learned to look for achylia gastrica in certain diseases but in recent years with the work done on pernicious anaemia there has been a renewed interest and today we never feel justified in diagnosing a case as pernicious anaemia regardless of the blood picture unless there has been a test meal and achylia has been proven. Since the time of Samuel Fenwick in 1870 much speculation has come forth regarding the association of these conditions and we now know that achylia precedes by months or years the other symptoms or blood findings of pernicious anaemia. Some even think that achylia is an etiological factor and all achylias are potential pernicious anaemia cases. There are two theories offered as proof.

(1) The absence of hydrochloric acid allows bacterial increase from oral sepsis as well as other foci (tonsils) and results in hemolytic poisons.

(2) In the absence of hydrocloric acid there is failure of a proper proteolytic digestion and toxic substances which are hemolytic results.

Aside from pernicious anaemia achylia is found in almost 50% of cases of cardiac fibrillation.

In non-specific leukoplakia there is a large per cent of achylia while in 85% of cases of leucoderma there is an absence of hydrochloric acid.

All theories relative to the causes of achylia emphasize the necessity of dividing them into two groups.

First—A primary group in which the activating cause is in the gastric mucous membrane.

Second—A secondary group in which the cause is extra gastric.

Those apparently normal cases who have no symptoms and yet have a total anacidity, naturally makes one think of a congenital form of achylia. However, this is a much mooted question and it is quite difficult to rule out the usually accepted dietary and toxic causes even in the young. Einhorn has shown that the gastric glands may be preserved and he has seen achylia cease after a certain lapse of time.

No less an authority than Faber of Copenhagen, states that achylia has an exogenous cause and is produced by direct irritation of the mucus membrane or through the circulation by a toxic action on the gastric parenchyma. This statement is substantiated by most leading American authorities.

In a recent review of 600 gastric analyses run by us there were found 43 cases of true achylia. The classification according to age is as follows:

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*Read before the Society of Physicians and Surgeons, October 17, 1930.

0 to 20 years	1 case
20 to 30 years	6 cases
30 to 40 years	6 cases
40 to 50 years	9 cases
50 to 60 years	12 cases
60 and above	9 cases

In this group 38 cases had a total acidity at its height of 20° or below, 5 cases were from 20° to 30°. There were 29 females and 14 males in the group.

The symptoms were grouped as follows:

Loss of weight	30
Flatus and eructation	28
Anorexia	25
Nausea	20
Nervousness	19
Easy fatigue	13
Epigastric fullness	12
Vomiting	11
Diarrhea	6

The physical findings showed the following:

Gall-bladder disease	15 cases
Oral sepsis present	12 cases
Oral sepsis—previous (Teeth extracted)	12 cases
Chronic tonsillitis—septic	10 cases
Tonsillectomy—previous infection	7 cases
Malignancy	5 cases
Pernicious Anaemia	3 cases
Thyrotoxicosis	3 cases
Leucoplakia—tongue	1 case
Sinus infection—operated	1 case
Opium addict	1 case
Lues—treated	1 case

This proportion of achylia is somewhat less than a series reported recently by Wright, of Minneapolis, who found 116 cases in 778 gastro-intestinal examinations. In only two of his cases could nothing be found which might have some bearing on the presence of the achylia. Gall-bladder disease was the predominant diagnosis made in this series of cases. About 10% of all gastro-intestinal cases and about 63% of all achlorhydrias are true achylia according to Kantor.

One case of our series was in a treated luetic who had been Wassermann negative for 3 years. Pernicious anaemia was diagnosed 1 year following his third year of luetic treatment and of course the achylia was associated with the anaemia. His response to treatment for the anaemia has been most satisfactory and his Wassermann has remained negative but the achylia has persisted.

Verification of all cases of true achylia can be made by the use of Histamin. This substance can be found in the human intestine, but just what importance it has there is not known. It is derived from the protein digestion, resulting from amino-acid histidin. Through the duodenal tube it has been applied to the duodenal mucosa and in a short time there is a marked increase in gastric juice secretion but in true achylia no hydrochloric acid may be found. Although there may be an increase in the other products of secretion, Histamin administered hypodermically gives its full effect in 45 to 60 minutes and thus it is easy to use the ordinary Ewald meal and remove fractionally. Subacidities and many cases of anacidity will show definite hydrochloric acid increase while normal individuals will show astounding increases, but the true achylia will still fail to show hydrochloric acid in any proportion. We have been unable to follow this procedure in all cases but our experience has shown the above facts to be definitely the case. Before abdominal exploration in doubtful cases particularly questionable gall-bladder disease, test meal study and Histamin response are two additional diagnostic aids that frequently prevent disappointing surgical results. Too frequently our supposed gall-bladder cases are found to be cases of achylia when these measures are followed. In this series with 15 diseased gall-bladders diagnosed, 4 had been operated with no improvement.

After diagnosing our cases what can be expected from treatment? Those cases that present no general symptoms and only minor gastro-intestinal upsets usually maintain good health. Except in the cases of malignancy the prognosis is from good to fair depending upon whether the condition is primary or secondary.

From present day knowledge there are no special prophylactic measures worthy of note. Abstinence from alcoholic excesses, proper diet, removal of all foci of infection and general hygienic surrounding are possible preventing steps.

Little need be said about the treatment. General management with ideal surroundings, rest, moderate exercise, sedation for the neurotics, proper encouragement and removal of all contributing causes.

The dietetic regime is now of greater importance since the more recent works of Minot, Murphy and Sharp, who have contributed so much to aid us in handling our cases of pernicious anaemia. We now know our anaemia cases can be saved although there is no change in the secretory function of the stomach after the blood is returned to normal. There is remission in the anaemia but no change in the achylia. This seems to verify the possibility of achylia being a cause for pernicious anaemia but in no wise helps us in solving the cause for achylia gastrica.

Dietetic treatment of cases other than those of pernicious anaemia has changed but little. Best results are obtained from a smooth, non-irritating diet. Many lists are available and it is needless to review them but always insist on proper preparation of food, thorough mastication and regularity of meals.

Lastly drug treatment deserves consideration, for no condition responds so nicely as the average case of achylia to proper administration of hydrochloric acid. There are some variations both in dosage and time of administration that should be remembered for each case seems to react somewhat differently. Many show best results when the acid is given prior to meal, others secure a more normal digestion when it is taken with the meal and still others require the drug at various intervals following the meal. Some cases even have to have divided doses given at all three periods.

The dosage also varies with the individual and it is usually best to start with small doses and increase until the desired results are obtained. Also the degree of dilution is important and I personally prefer the more concentrated administration (½ ounces of water) and this taken through a glass tube.

Frequently the acid alone will be the only drug necessary but in many cases we seem to see more encouraging results when the acid is administered with some of the enzyme preparations, Essence of Pepsin, Gastron, Essence of Diazyme, etc. These usually act as a suitable vehicle for our drug and make a prescription that can be varied from time to time. Recently for convenience we have been furnished with pulvules containing hydrochloric acid which make a still more palatable as well as convenient method of administration. However, the dose in one pulvule is too small for the average case.

Aside from the above medication there is frequently need for treating the more persistent symptoms, such as diarrhea, fullness, burning, etc. Various measures are available and response is usually prompt but our sheet anchor still remains the hydrochloric acid and enzyme combinations.

SUMMARY

1. Achylia Gastrica is caused by direct irritation or hematogenous intoxication by bacterial toxins or auto-toxins.
2. Closer association of Achylia Gastrica and Pernicious Anaemia, due to recent treatment of anaemia.
3. Classification of cases as to age, symptoms and possible causes.
4. Importance of Histamin response.
5. Treatment with larger doses of hydrochloric acid is more beneficial.

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THE COMPENSATION LUNG

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There is much to be considered in handling this type of injury. We do the injured an unintentional injustice by discharging him without a very thorough understanding of the physiology of the parts involved in the injury and what the future may develop when he returns to the work that he did, prior to his injury, or accident.

When Trauma in it's full sense of interpretation, is applied to injuries of the chest, there will be many points of differentation that must be considered. A fixed rule for a diagnosis, and prognosis cannot be applied to a series of injuries, that seemingly are of the same type. Why? Because there are the individual peculiarities that influence the prognosis of every case.

Modern scientific diagnosis is the result of all the evidence that can be found in the clinical and laboratory methods. One should always keep in mind the limitation of each. If there is a faulty interpretation due to the lack of proper technique or a diminished conservative diagnostic reading, there will be an error in the report to the compensation board. The clinician will approach an error in his examination, unless there is a conservative analysis of the stethoscope sounds and reading of the radiographic findings.

Can the reader differentiate diagnostically on the X-ray plate or radiograph, the difference between an early case of tuberculosis or bronchitis, or an advanced case of tuberculosis, and a chronic bronchitis, with it's large shadows and dense diffuse areas; plus a chest full of mucous rales, a heavy expectoriation, without referring to the temperature charts and laboratory examination? Experience will give one an opinion, after making an X-ray reading, but accuracy cannot be had without the other examinations. I refer to trauma of the lungs, where there has been a crushing contusion to the chest, causing a hemmorrhage, bronchitis and a tuberculosis. This is the type of case that creates so much doubt as to diagnosis, i. e., whether or not the injured had tuberculosis prior to the injury or was it contracted after the injury?

A diagnosis in this kind of case cannot be made from an X-ray plate. You must have family history, clinical examinations, plus the laboratory and radiographs. The final report in an injury case like this must decide these questions for the compensation board:

Questions that you are confronted with in making an examination:

1. What was the physical condition of the injured before accident.
2. What bearing would a history of bronchitis or tuberculosis have in the injured's case, if his parents had these diseases.
3. Has the lung ever been diseased.
4. Was the injured sick at the time of the accident.
5. What is the nature of the wound involving the lung.
6. What causes a hemorrhage and what is it's significance.
7. When the lung is injured, can a disease, which might start from the injured tissue be referred to other parts of the lung.
8. If tuberculosis occurs, when did the infection become active.
9. What produces tuberculosis in the injured.
10. How is the tuberculosis developed in these cases; is it infection from within or without.
11. What is the relationship of the injury to the disability.
12. What means can you employ to divide the percentage of disability, between the acquired infection and the trauma.
13. What is the one hundred per cent cause of the disability.

The answers to the above and foregoing questions are based upon my personal experience covering a period of thirty years in the treatment of traumatic injuries.

In answer to question No. 1; unless there is a physical record of the injured, before the accident, one must consider the patient or injured's statement regarding his health. There is no reason for the clinician to assume the right of surmising a physical history, because, it is impossible for him to outline a chart that will fit into the injured's present condition. Only the evidence that he has before him can be used. If there is a negative finding of tuberculosis in the preliminary history of the injured, the same findings in his parental history, there is no reason for the examiner to believe that the injured has other than a clear physical field to start with.

Answer to question 2. If the injured gives a parental history of chronic bronchitis or tuberculosis, you cannot judge him an active case of tuberculosis, prior to the injury unless the examiner takes a temperature reading, immediately following the injury and continues the chart record until after the injured tissues make a repair. If there is an active case, the early reading of the temperature will range from 99 to 103 degrees or higher. This temperature will continue, regardless of the wound repair. A conservative conclusion in this chart history is that the injured had an active case, prior to the accident. This chart is for a preliminary finding and has not significance if used four to six months after an injury.

Answer to question 3. This is a most important question, because you must compare the pathological findings of the lung, which are registered upon the radiograph, making a comparative interpretation of the disease, past and present. See paragraph No. 4.

Answer to question 4. See answer to question No. 1.

· Answer to question 5. It is necessary to review this as a picture and eliminate the injuries that will not interfere with the function of parts. It is however, very necessary to consider the reaction which may follow any form of severe trauma to the lungs. A blood count should be made on every case and attached to the other laboratory report, because it gives an insight to the blood fortification.

Answer to question 6. Hemorrhage following injury to the chest must necessarily come from a puncture or a crushing force that ruptures the lung tissue, therefore when the hemorrhage is arrested, what assurance has the injured that an active tuberculosis will not develop. Why? Because the invasion of the infection is through inhalation, injection trauma and inheritance. How can a definite statement be made, following a crushing injury to the lung, as to what method of invasion produces the infection? Trauma or injury, paves a very easy way for a lung to be invaded by the tubercular germs by the above mentioned ways of invasion.

Answer to question 7. Yes. Any infection of a punctured or contused wound of the lung may spread and if the all method examination is neglected until some other symptoms develop, you will have, what may be termed a refered condition to other parts of the lung. This will give a false interpretation of an arrested case, becoming active, which was produced by the injury. This would lead the examiner to conclude that the injured had a tubercular infection prior to the injury. However, this is an error of diagnosis that could have been corrected, if an examination had been made right after the injury.

Answer to question 8. See answers to questions 6 and 7.

Answer to question 9. See answers to questions 6 and 7.

Answer to question 10. See answer to question 6.

Answer to question 11. See answers to questions 1 and 2.

Answer to question 12. See paragraph 4, and answers to questions 1, 6 and 7.

Answer to question 13. See answer to question 1.

A temperature chart is more significent of the progress in a traumatized lung than any other record in the case, especially when hemorrhage, fracture and disease are leading conditions for an accurate interpretation. The temperature chart registers the activity of the disease, indicating either an early or advanced condition. You can form an opinion as to what you may look for, in the laboratory and X-ray examination.

A temperature reading in a traumatized lung should have the same careful consideration, like that which you give to a urinometer reading. If this instrument shows a negative finding, you can form an opinion as to the condition of the kidneys; therefore, when a temperature chart is reviewed, the clinician will see at once, what he must expect in the lungs, after a check up in the laboratory and physical examinations.

It is my opinion that the first consideration in making a diagnosis, before taking up the other methods of examination, would be to thoroughly review the temperature chart. This will give to the radiologist a better idea as to the position that he will want the patient to assume when X-raying. Inasmuch as the radiograph is always given a general reading, there should be several plates made of a case and each plate should bear the position of the patient, standing or recumbent, the position of the plate to the patient, i.e., anterior and posterior.

Any pathologic condition in which there is an increase in blood supply of any portion of the lung will cause a thickening and an increase in the density of the affected areas. When reviewed on the radiograph many errors are made in it's correct interpretation because of this thickened density. Therefore in order to make a good radiograph, you must prevent distortion of the intra-thoracic viscera, avoid the density of the ribs and preserve the soft and dense shadows, which cannot be accomplished if your plate is too dark.

I have seen many radiographs diagnosed tuberculosis because of the increased density of the hilus shadows, due to calcified glands around the large bronchi. But, the laboratory examination and temperature chart were negative. In every case of tuberculosis there is a peri-bronchial thickening and you have the same in extensive bronchitis, consequently your X-ray, is of no diagnostic value without a complete laboratory examination.

This type of injury brings on many complications and many disagreements, however, I do not think that there should be any question of a diagnostic prognosis, if there is a thorough and conservative interpretation of all the methods that should be used in the examination of this class of cases. This all method examination, with the histories combined is the only way that you can give the compensation board a conservative report as to the per cent of disability.

There is a tendency to fall back on the radiograph as a final conclusion in making the diagnosis and to establish a per cent of disability. This method, without all other methods of examination, is so full of errors that it causes a misunderstanding between the board and the injured.

Compensation boards do not make a diagnosis of an injury, but they do render a decision based upon the clinician's interpretation of the injuries in the individual case.

The All-Method examination embraces the following:

1. Clinical history.
2. Physical examination.
3. Temperature chart.
4. Laboratory — Sputum examination.
   Blood examination.
5. X-ray examination.

The above method of examination will give the injured and the insurance carrier an equal consideration and the compensation board can render a decision that will be fair to all concerned.

Treatment of Progressive Muscular Dystrophy.—Kure and Okinaka first review the literature on the therapeutic value of epinephrine and pilocarpine injections in progressive muscular dystrophy| Then they report their own observations on twelve patients. Regarding the technic, they state that the substances are injected subcutaneously from 0.2 to 0.3 cc. of a 0.1 per cent solution of epinephrine and from 0.1 to 0.2 cc. of a 1 per cent solution of pilocarpine. The injections are repeated every day or every second day. The usual number of treatments required is between fifty and sixty. Occasionally more are necessary. The authors further discuss the results of the treatment. They found that the treatment is the more effective the earlier it is begun. To exercise the affected muscles is also helpful. For from five to ten minutes after the injection tachycardia generally becomes manifest, but other serious complications were not observed. Even after more than fifty injections, neither hypertrophy of the heart nor increased blood pressure was noted. However, occasionally some of the healthy muscles became hypertrophied. The authors come to the conclusion that although this therapy does not effect a complete cure it nevertheless improves the condition and checks its further progress.

THE PUPIL IN HEALTH AND IN CERTAIN DISEASES—A REVIEW.*

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The average normal pupil is from 3 to 5 mm. in diameter. It is small in infants and old age and large in youth and in myopes. In infants the pupil may be difficult to dilate. According to Ball, the application of atropine is often unsuccessful; although the physiologic effects may be manifested by flushing, dryness of the mouth and accelerated cardiac action, the pupils may dilate but slightly or not at all. I have seen no explanation of this, but Fuchs also mentions this peculiarity of the infantile iris.

Variations in size of the pupil are determined by the action of two muscles in the iris, the sphincter, supplied by the motor oculi nerve, and the dilator, supplied by the sympathetic. It is also influenced by the vessels of the iris; when these are dilated the iris is expanded and the pupil made smaller. Mechanical factors play a part, as pressure of the aqueous. According to Fuchs, the withdrawal of this fluid even after death makes the pupils smaller. It is thought that the afferent pupillary fibres in the optic nerve are distinct from those carrying visual impression. These pupillary fibres originate mainly, though not entirely, from the macula and retina adjacent. Like the visual, these fibres undergo partial decussation at the chiasm, thence through the optic tracts to the superior corpus quadrigeminum; other fibres take the message here and carry it to the motor oculi nucleus of the same and of the opposite side. From this nucleus efferent fibres pass out, and after passing through the ciliary ganglion enter the eye and are distributed to the sphincter.

From this arrangement it is evident that light falling in one eye will contract the pupil of both. The contraction of the eye receiving the light is called direct, that of the fellow eye consensual. If the eye is blind the afferent path is broken and light falling in the eye does not cause contraction of the pupil, with possibly very rare exceptions.

An interference with the efferent message, either in the nucleus or in the motor fibres or in the iris itself, may in like manner prevent pupillary contraction. This contraction normally takes place not only by reflex light stimulation, but also in association with convergence and accommodation. Argyl Robertson taught us the importance of this contraction in the absence of the light reflex. Besides these responses to light and convergence the pupil is dilated by sensory reflexes and certain psychic conditions such as fear. Fuchs thinks the path of these sensory impressions is mainly through the fifth cranial, last cervical and first three dorsal nerves to the brain, thence to the cilio-spinal centre and thence through the sympathetic to the Gasserian ganglion, and finally with the ophthalmic division of the fifth to the dilatator of the iris. He believes that the abolition of these reflexes causes the myosis found in sleep and in profound narcosis. The cilio-spinal centre just mentioned is in the gray matter of the eighth cranial and first and second thoracic segments.

Paralysis of this centre or of its efferent sympathetic fibres causes the pupil to be smaller. It is best discovered by instilling cocaine as this acts by stimulating the dilatator and in paralysis of the latter does not dilate the pupil.

Turning to the pupillary disturbances in certain disease we consider first:

Tabes. In seventy-seven cases of this disease Heitz (quoted by Moore), found normal pupils in only four. The most common, though not the invariable condition, is reflex iridoplegia. I quote from Foster Moore as follows: "The Argyl Robertson pupil was first described by him in 1869. In a very great majority of cases it is indicative of syphilitic infection and is usually associated with tabes or general paralysis. It has, however, not been sufficiently recognized that other than syphilitic lesions can produce the phenomenon. The essential of the condition is failure to contract to light with contraction on convergence. This reflex iridoplegia may be complete or partial. The pupil may be normal in size or large. In about thirty per cent it is small from associated paralysis of the sympathetic centre in the cord. It is often not circular and it dilates imperfectly with mydriatics as Argyl Robertson pointed out in his first case. In the great majority of cases it is bilateral, but unilateral cases are not very rare and have the same significance."

Besides this typical anomaly there may also be found reflex iridoplegia with loss also of contraction on convergence, and Arnold Knapp says that unilateral mydriasis with immobility is not very rare as a predecessor of tabes.

Foster Moore has observed seven cases of Argyle Robertson pupil in which minute examination failed to find any evidence of lues or nervous disease, probably congenital. The situation of the lesion in reflex irioplegia is not positively known—probably in the fibres between corpus quadrigeminum and motor oculi nucleus.

In Paresis the pupillary changes are similar to those of tabes, but not so frequent. There is greater tendency to unilateral affection, and simultaneous loss of accommodation is more common.

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*Read before the Louisville Medico-Chirurgical Society.

In Cerebral Syphilis ocular sysmptoms occur in 85 per cent, but pupillary symptoms, except as part of motor oculi paralysis, are not frequent. Reflex iridoplegia occurs rarely.

In Brain Tumor and Abscess we may find an isolated mydriasis, often associated with ptosis and unilateral. This partial third nerve paralysis is said to be an important symptom in temporal lobe abscess of the same side.

In Cerebral Hemorrhage Arnold Knapp states that changes in the pupils are inconstant; they are in some cases dilated, in others contracted, so that they do not offer any diagnostic aid. Osler, however, states that in hemorrhage into the pons or ventricles the pupils may be strongly contracted, suggesting opium poisoning, but usually in apoplexy they are dilated, sometimes unequal and always irresponsive in deep coma.

In Disseminated Sclerosis, according to Knapp, there are no pupillary changes, but Foster Moore thinks that while not characteristic they do occur in various forms and rarely as reflex iridoplegia; similarly in Encephalitis Lethargia, according to English statistics, the incidence of pupil changes seems to have varied greatly in different outbreaks and different countries, but the changes are not characteristic.

In Retrobulbar Neuritis Gunn describes a dilatation of the pupil, which immediately succeeds the contraction from the light reflex and considers this of great value in diagnosis from hysteria. As this diagnosis is some times difficult, the symptoms are well worthy of study.

In severe Injuries of the Skull a dilated and irresponsive pupil is an unfavorable sign. At first the pupils are narrowed, but when pressure is great and stupor prolonged the pupil dilates, in many cases but not in all, on the side of a hemorrhage.

In Hysteria, though a few cases are reported in which the pupil reflex was said to be lost, they are of such extreme rarity as hardly to vitiate the statement that in this disease the pupil is normal.

In Blindness due to optic nerve disease a very few cases are reported in which the light reflex remained, but the extreme rarity of these cases makes them of doubtful importance.

Inequality of the Pupils with normal response (called anisocoria), is not very rare, at least in moderate degree of health

In Uremic Amaurosis, even with loss of light perception, the pupillary reflex to light usually remains; this is due to the cortical situation of the lesion.

SUMMARY.

1. In examining the pupils, each should be examined separately, the other being carefully excluded from light.

2. When the pupil responds to light, light perception is present, with the important exception of uremia amaurosis, and rare affections of the cortex.

3. With possibly very rare exceptions the pupil reflex in hysteria is normal.

4. In injuries of the skull a dilated irresponsive pupil is a bad sign.

5. In tabes pupillary abnormalities occur in the vast majority of cases. The absence of light reflex with retention of contraction on convergence (Argyle Robertson pupil), is the most common and the most typical, but other conditions are also found.

6. The Argyl Robertson pupil, while extremely suggestive, is not proof positive of lues or nervous disease.

7. Pupillary changes in disseminated sclerosis and in encephalitis may occur in various forms, but are not of great diagnostic value.

8. In brain tumor and abscess a dilated irresponsive pupil with or without ptosis is sometimes seen and points to temporal lobe lesion.

9. Inequality of the pupils of moderate degree with normal response is not rare in health.

10. Immediate dilation of the pupil following light reflex contraction is said by Gunn to be found in retrobulbar neuritis.

DISCUSSION.

Phillip F. Barbour: Two or three points occurred to me while Dr. Dabney was reading his paper. The first is the effect of hemorrhage in dilating the pupil. I recall a patient upon whom the late Dr. H. Horace Grant operated for me several years ago, a child who had had a fracture of the skull with hemorrhage for two or three hours. The pupil on the same side became widely dilated, and it was on that point Dr. Grant decided to trephine. When the skull was opened we found hemorrhage from the middle meningeal artery caused by the injury.

The second point is the question of intracranial hemorrhage in the newborn. I have occasionally found in these cases that hemorrhage produces dilatation of the pupil on one side. I have always watched the pupil to get some intimation of the amount of the hemorrhage if possible, and also to determine where the hemorrhage was. .

An interesting point that has occurred to me, and I have noticed it many times, is inequality of the pupils in tuberculous meningitis, the so-called paradoxical pupil, where the pupil contracts and expands under a continued stimulus.

This has been a very helpful sign to me in making the diagnosis of tuberculous meningitis.

I do not know why the pupils of young children do not respond unless it be that they can tolerate much more atropine than adults. It is true that children can take considerably larger amounts of belladonna or atropine than adults without the production of symptoms. I have given babies five or six weeks old large doses of atropine every three hours without any symptoms of poisoning. They are quite tolerant to the atropine or belladonna group of drugs.

William E. Gardner: Dr. Dabney's paper was very interesting and instructive. He covered a large territory in a comparatively short time, and mentioned some very important points in the matter of diagnosis. It was difficult to follow in detail all he had to say and I shall enjoy reading his paper when it is published. He spoke of the Argyll-Robertson pupil, which is always present in tabes and paresis. I agree with him that in both of these conditions the pupil may be irresponsive to light, but more frequently unequal and irregular in outline in paresis.

It was interesting to have Dr. Dabney describe other conditions in which there might be pupils that do not respond to the light reflex, similar to the Argyll-Robertson pupil. We usually think of the irresponsive pupil as being associated with tabes, paresis or some other involvment of the central nervous system due to syphilis. We know, however, that an irritative lesion about the ciliospinal center of the cervical sympathetic may cause a dilated pupil, which does not respond to light, sometimes pointing to a lesion of the spinal cord in that area, or it may be caused by a tumor or other involvement of the apex of the lung on the corresponding side. The study of the pupil is always of great assistance in neurological diagnosis, and the opinion of the ophthalmologist is frequently an invaluable aid.

I do not recall that Dr. Dabney mentioned the Wernicke pupil, sometimes found in subcortical lesions of the cerebral hemispheres, occasionally associated with an aphasia, in which there is an homonymous hemianopia, and in which the pupil will not respond to light if the rays fall only on the corresponding blind halves of the retinae. It is not any easy sign to elicit, and in many instances is of no practical importance.

Dr. Barbour spoke of the alternate contraction and dilatation of the pupil sometimes seen in tuberculous meningitis, which I have not observed, it having been my experience to find the pupils widely dilated in such cases and irresponsive to light, especially if an optic neuritis were present which is the rule, but I can imagine that in the very early stages of this disease such a phenomenon as he has mentioned may exist. This would be an example of the so-called paradoxical pupil, which dilates under the stimulation of light rather than contracts as we would expect it to do. In this connection we should bear in mind, also, that in the normal pupil there is said to be a constant state of unrest, or a wave like dilatation and contraction of the pupil, which can be demonstrated in a bright light by a high powered lense. The loss of this normal state of unrest may be observed in the early stages of tabes long before the typical Argyll-Robertson pupil has appeared. An alternate dilation and contraction of the pupil in much wider range than this may be observed in functional diseases of the nervous system, especially in hysteria, and is a condition of the pupil known as hippus. Such pupils will, however, always show a prompt contraction to light.

Various psychic disturbances may affect the pupils, and it has been stated that if one is told to think constantly for a short period of a dark object the pupil will dilate, whereas if told to think of a very bright light the pupil will contract. I have, personally, never taken the time or pains to observe this phenomenon, but it might be of some academic interest in highly susceptible individuals.

We all know the effect of intense emotions regarding their influence on the pupil, such as fright or anger, and in many functional diseases of the nervous system we are not surprised to find the widely dilated pupil, especially in the young or middle aged individual. This is particularly true in that condition known as anxiety neurosis, and may also be observed in states of hyperthyroidism some of which are no more than an expression of an underlying neurosis.

Oscar O. Miller: In pulmonary tuberculosis it is not uncommon to find the pupils widely dilated, in the presence of active disease. Dilatation of one pupil is frequently observed and is of some diagnostic significance in early tuberculosis. It is due to irritation of the cervical sympathetic by an inflammatory process in the apical pleura.

In tuberculous meningitis inequality of the pupils is more frequently observed than in other forms of meningitis.

R. Glen Spurling: Dr. Dabney has presented this subject in his usual thorough manner. There is only one point upon which I wish to differ, i. e., the remark about a fixed dilated pupil in skull injuries being a very bad sign. From the standpoint of the neurological surgeon this is often a very hopeful sign in serious head injuries, inasmuch as it usually denotes an extradural hemorrhage which if properly treated offers a splendid chance for recovery. I believe a unilateral dilated fixed pupil in skull injuries is one of the most important and accurate signs which we have in neurology. Holman and Scott wrote a very interesting paper on this sign a few years ago, and it was their experience, and I believe it is the experience of most neurological surgeons, that a unilateral dilated fixed pupil indicates the side upon which the brain lesion is present in a great majority of cases.

I should like to tell you of one of my experiences illustrating the importance of this sign. Two years ago I had the occasion to see a patient with fracture of the skull in consultation. The scalp wound was in the right parietal region, and the left pupil was widely dilated. The other neurological signs indicated a left-sided lesion. I made a diagnosis of extradural hemorrhage on the left side. The surgeon disagreed with my lateralization and operated upon the right side, apparently because of the scalp wound. The patient died a few hours later and at autopsy a large extradural hemorrhage on the left side was found.

I was also interested in Dr. Dabney's discussion of the light reflex in blind patients. It is not an uncommon occurrence to see patients who are practically blind from an intracranial disease showing a prompt pupillary response to stimulation by light. In homonymous hemianopsia, due to a lesion posterior to the external geniculate body, a pupillary reflex can often be produced by flashing a light upon the blind retina. I have such a patient under observation at the present time, who had an infiltrating tumor of the occipital lobe. The entire occipital lobe was removed. The patient shows a pupillary response when the blind one-half of the retina is stimulated. The explanation of this phenomenon is that the reflex arcus between the optic nerve and the third, fourth and sixth cranial nerves are intact.

Examination of the extraocular movements of the eye and the pupillary response is of great diagnostic importance in any field of medicine or surgery. Let me cite two instances to illustrate this point. I recently saw a patient with a large tumor of the neck, presumably arising from the thyroid gland. This patient had a unilateral enophthalmus with contraction of the pupil and absence of sweating on the same side of the face and neck, indicating, of course, direct pressure upon the cervical sympathetic trunk. Another patient with brachial birth palsy showed narrowing of the palpebral fissure with slight enophthalmus and contracture of the pupil of the same side, indicating again that the nerve roots supplying the brachial plexus had been severed inside the spinal canal, making operative intervention out of the question.

Samuel G. Dabney (in closing): In reply to Dr. Gardner, I would say that contraction of the pupil to light in cases of total blindness is such an extreme rarity that it may be almost disregarded; it is important in some medicolegal cases.

I was particularly interested and instructed by what Dr. Spurling said about the prognosis of certain brain lesions based on pupillary changes. Our ideas as to the prognosis of brain lesions have changed considerably during the last few years, since the advent of the neurological surgeon. I think Dr. Spurling has enlightened us very much.

Inequality of the pupils has been mentioned. Twenty years ago great stress was laid on this symptom. In moderate degree it is quite common in health. When both pupils respond to light it is not of very much importance. When observed with other evidences of disease, it might be if some value occasionally.

Pupillary symptoms occur with such a very large proportion of cases of tabes, that a normal pupil is strong presumptive evidence against this disease.

The hemianopic pupil test, the so-called Wernicke reaction, is often untrustworthy, and, according to Fuchs, has very little diagnostic importance.

PERINEPHRITIS.*

Claude G. Hoffman, M. D., F. A. C. S.,

Louisville.

There is not much to be said about perinephritis. The term was originally intended to denote inflammation of the fibrous capsule of the kidney associated with true nephritis. For many years, however, the word has been used to represent inflammation of any portion of the perinephrium, that is the tissues surrounding the kidney, from the cortex outward to the peritoneal envelope.

It was formerly the custom, in describing the fatty tissues around the kidney, to divide them into two sections: (a) the perinephric fat, and (b) the paranephric fat. Such a division seems to me to be entirely unnecessary. The prefix peri signifies around, and para means beside or beyond. The term perinephric, being the more expressive, should be retained; paranephric may well be discarded.

Perinephritis is unilateral in about 90 per cent of cases. There are no age limits; it may occur in the very young or the aged. Males are affected oftener than females in the proportion of more than three to one. The right side is involved with much greater frequency than the left, for which no reason has been assigned.

The blood supply of the perinephrium is derived from the branches of the renal, adrenal and spermatic arteries. Both the arteries and veins form a network around the kidney. The peritoneal envelope which surrounds the perinephric tissue is closed at its upper extremity, but it more or less open at its base. This has an important bearing on the extension of infection in certain cases.

Perinephritis owes its origin to a single factor, namely: infection by pyogenic bacteria. In the order of frequency the infective organisms are said to be :(1) the staphylococcus, (2) the streptococcus, (3) the colon bacillus, (4) the tubercle bacillus, (5) the diplococcus of Neisser.

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*Read before the Jefferson County Medical Society.

Perinephritis does not necessarily imply the presence of an associated renal inflammation, although in not a few instances the perinephric involvement is secondary to a primary focus in the kidney. A small abscess may perforate the renal cortex, and infection thus reach the perinephric tissues. In the greater proportion of cases the infective agent is transmitted directly to the perinephrium with out passing through the kidney.

There are several routes by which bacteria or infected emboli may reach the perinephric tissues: (1) hematogenous, or metastic, from a focus of infection elsewhere in the body, (2) lymphogenous, (3) by extension from adjacent infected organs through contiguity of structure.

It is quite generally accepted that, in the majority of cases, perinephric infection is hematogenous in origin. Bacteria or emboli may be transported by the blood stream to the perinephric tissues by way of the surrounding vascular network without transmission through the kidney. That is believed to be the most common mode of infection in perinephritis. The location of the original focus of infection is unimportant; it may be anywhere in the body. Furuncles and carbuncles are said to be frequently responsible for the production of perinephritis. Trauma may play a minor role in hematogenous infection; the extravasated blood or urine becoming infected may be carried directly to the perirenal area by the blood stream.

Lymphogenous transmission of infective agents to the perinephrium seems to be much less common than by the hematogenous route. This is not easily understood when it is remembered that the perinephric tissues are abundantly supplied with lymphatics, some of which are known to communicate with those of the kidney. It seems quite probable that perinephric infection through the lymphatic channels occurs with greater frequency than has been hitherto believed.

Extension of infection from adjacent organs is a common cause of perinephritis. A cortical abscess may rupture into the perinephric tissues and spread the infection. Pyelonephritis, renal tuberculosis, actinomycosis, pyonephrosis, or perforation of the renal cortex by a calculus, may be responsible for perinephric infection. Extension sometimes occurs from the liver, pancreas, duodenum, appendix, or pleura; also along the periureteral sheath from the seminal vesicles, prostate, or urinary bladder. I recently had under observation a boy aged seventeen years in whom infection extended to the perinephrium from an abscess of the prostate. In acute infectious diseases, such as scarlatina, variola, influenza, etc., perinephritis is an occasional complication.

The symptoms of perinephritis are: fever, local pain, and tenderness on pressure. However, these symptoms are not characteristic of perinephric infection, as they are commonly observed in various other intra-abdominal affections. In the absence of urinary tract infection or calculi, the urine is negative; hence cystoscopy, ureteral catheterization, pyelography and roentgen-ray examination, afford no information of diagnostic value. The accurate localization of pain is an indicative but an uncertain symptom. In the presence of a known focus of infection elsewhere in the body, localized pain, tenderness on pressure, continuous fever, and normal urine, one is justified in suspecting perinephritis as the cause.

From the foregoing it may be seen that, based upon clinical and labortory findings, a positive diagnosis of perinephritis is impossible until it has progressed to the terminal stage of abscess formation. The treatment of perinephritis is essentially symptomatic.

While the title of this paper precludes consideration of perinephric abscess, a few words may be permitted. Abscess formation is a logical, although by no means the invariable, result of perinephric infection. Perinephric abscess is generally unilateral, but may be bilateral. The modes of bacterial invasion are the same as stated in discussing perinephritis. The abscess may be circumscribed or diffuse, in the latter the kidney may be entirely surrounded by the products of suppuration.

The symptoms of perinephric abscess are much more pronounced than in perinephritis. The onset is generally acute, with an initial chill, high fever, pain, etc. Fever is continuous and may reach 104° F. or higher.

The diagnosis is made on basis of the clinical findings and roentgen-ray examination. Pyelography is distinctly inadvisable. The treatment is essentially surgical.

For some of the data presented herein I am indebted to the text book on urology by Eisendrath and Rolnick (1928), and to these authors I desire that full credit be extended with thanks for the privilege of excerpting material from their work.

RENAL TUBERCULOSIS*

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Louisville.

The mere mention of renal tuberculosis is usually a signal for discussion of divergent views on this very interesting subject. During the past few years more of us are beginning to take a common stand as to the methods that should be used in handling these cases.

The time has not been so far distant when renal tuberculosis was thought of as a more or less hopeless disease, and the afflicted were condemned to a life of suffering and torture. About the only recourse that the sufferer had to break the monotomy was a daily dose of cod liver oil and a series of tuberculin injections, until worn out by painful and frequent urination, loss of weight, and strength by toxemia, death ended his misery.

There is no doubt that great interest has been created toward the study of renal tuberculosis in the past few years, and that is probably due to he fact that research in the laboratory and in the post-mortem room, has revealed the true pathology of the disease. This knowledge combined with the perfection of the cystoscope has enabled the diagnostician to make a correct and early diagnosis, and by means of surgical and post operative treatment, to give the patient a good chance for recovery.

Judging from hospital records the disease is not nearly so common in this region as in the East. Nitch reports only 47 cases of renal tuberculosis being admitted to St. Thomas Hospital in London during the past 12 years, and he also states that the disease is much more common on the continent. More than 100 cases were admitted to the Brady Urological Clinic of the New York Hospital during the last seven years. A large majority of these were of Italian extraction, which makes us believe that the disease is more prevalent among the natives of the Southern European Countries.

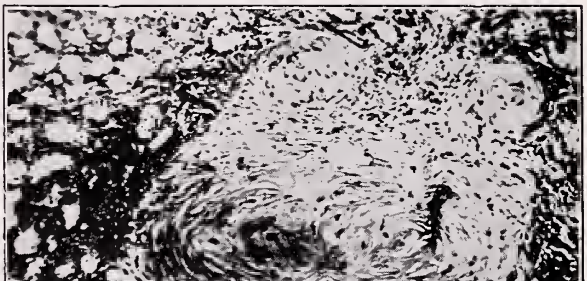
The clinical picture of renal tuberculosis is varied, but in a large majority of cases the picture is so nearly the same that the general practitioner ought to suspect it and make a preliminary diagnosis. Successful treatment as in all other diseases, depends upon an early diagnosis, but unfortunately very few cases reach the urologist before the signs and symptoms are very far advanced. At this point should be emphasized the importance of a thorough clinical and bacteriological examination in all urinary cases; particularly those with intermittent vesical irritation and cystitis, oftentimes associated with pain in the lumbar region. The unusual courses offer a more complex picture, and it is often difficult for the general practitioner to determine the underlying cause. If the exact urological condition is to be determined, then the urologist should be called in to decide whether the kidneys are responsible.

We need only review the symptoms briefly. A study of histories of patients suffering from tuberculosis of the urinary tract will reveal that the ever present symptom is frequency of urination. It is universally present and may or may not be accompanied by dysuria. There is usually pus present in the centrifuganized urine and often blood. Loss of weight is frequently noticed although this is not always the case. The urinary symptoms are usually accompanied by much nervousness and irritability, caused partly by absorption of toxines produced by diseased areas and partially by loss of sleep and rest due to almost constant urination to which these patients are subjected.

Physical examination of the kidney offers us little aid. It is often difficult to feel any enlargement of the involved kidney and tenderness may or may not be present.

The cystoscope is our greatest aid in making a diagnosis and in a majority of cases one examination is sufficient. The finding of the tubercle bacillus is absolute proof that the disease is present, but a typical cystoscopic picture is sufficient to establish a diagnosis in the absence of an acid fast stain or guinea pig examination.

There has been considerable change in recent times regarding our procedure in dealing with tuberculosis of the kidney. For many years it has been and now is the practice in some clinics to remove a kidney which con-



KHh Fig. 1. This pyeloureterogram shows dilatation of the middle and upper calyces and shagginess of the lower calyx. The entire ureter is dilated indicating the rapidly developing type of tuberculosis. Experience has taught us that these ureters rarely have tubercles in their walls.

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*Read before the Jefferson County Medical Society,

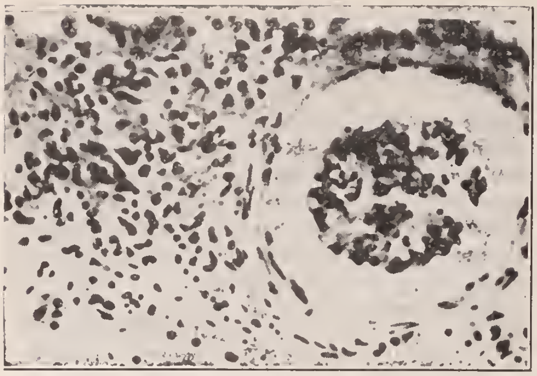

Fig. 2. There is a massive dilatation of the calyces, pelvis, and entire ureter such as is frequently found in rapidly developing tuberculosis of the upper urinary tract. Such ureters rarely have tubercles in their walls and it is perfectly safe for the surgeon to leave the stump.

sistently shows the presence of tubercle bacilli in the urine drained from it, regardless of the function of the organ. Recent work has changed our ideas along this line and now we are removing only those kidneys when the function is greatly diminished, provided the other side is competent to maintain life, whether or not it shows the presence of tubercle bacilli.

This recent change of attitude is mostly due to work done by the pathologist. About three years ago Dr. Medlar called our attention to some very important research work from the pathological viewpoint on renal tuberculosis. He studied thirty patients with pulmonary tuberculosis who came to autopsy, none of whom gave clinical symptoms of renal tuberculosis. One hundred thousand sections of the kidney were made. Every case showed evidence of renal tuberculosis. Cortical lesions numbered 75% showing that the infection is undoubtly hematogenous in origin.

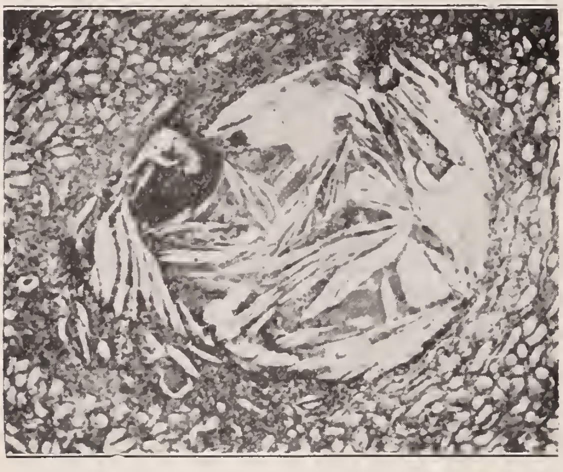

Fig.3. The shagginess shown in the calyces of this pyelogram is caused by tuberculous granulations. There is encroachment into the lumen of the ureter just below the transverse process of the fourth lumbar vertebra. This is also caused by tuberculous granulations. It is important for this ureter to be removed to a point below this filling defect.

Both kidneys were examined in 14 cases. One showed scars in both kidneys and eleven had tuberculous lesions in both kidneys. Two did not show bilateral involvement.

If the findings in this study represent the true facts it is apparent that every patient with pulmonary tuberculosis is a potential candidate for renal infection and it would, also, seem that cases of renal tuberculosis are secondary to some other tubercular focus, usually pulmonary, and that the infection is hematogenous in origin. Healing of a cavitated kidney probably does not occur, but we are led to believe that under suitable circumstances such lesions may be clinically arrested. Tuberculous lesions of the lungs, intestines, etc., do heal and so with the above evidence of tuberculous scars of the kidney it would seem that tuberculosis of the kidneys does heal.

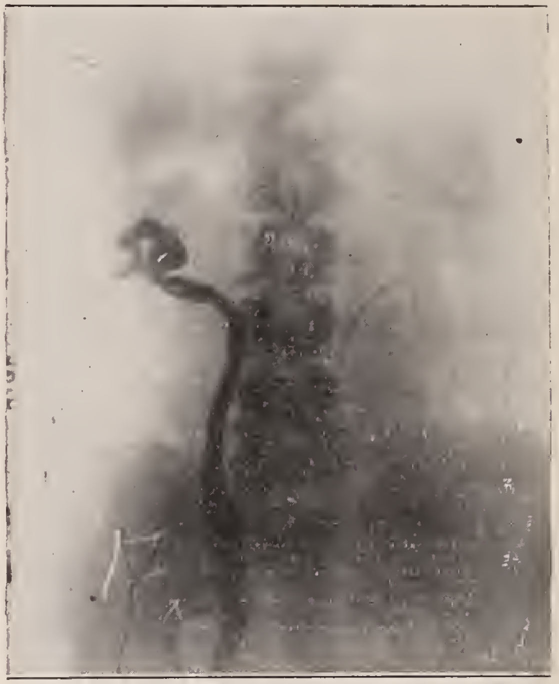

Fig. 4. Dense fibrous scar representing a healed caseated lesion. The sclerosed glomeruli in the kidney shown above are typical of such lesions.

While personally associated with the Brady Urological Clinic in New York, we had the opportunity to put the theories of Dr. Medlar into practice. At this time a very exhaustive study was made of 63 cases of nephrectomy for tuberculosis, which we had occasion to do. A few years previously there had been established in this same Urological Department a clinic for the treatment of inoperable and post-operative cases of renal tuberculosis.

It was formerly our custom to feel quite satisfied with ourselves after successfully removing a tuberculous kidney, especially if the patient was dismissed with the usual advice that a few weeks' vacation be taken and the incident closed until the patient returned with recurrent symptoms and occasionally with the other kidney affected. The occurence of this type of case and the presence in clinics of patients in whom there was severe bilateral tuberculosis stimulated them to establish a special clinic for the care of patients having inoperable and post-operative tuberculosis of the kidney as well as for the care of the occasional case of unilateral renal tuberculosis in which the patient refused operation.

Our attitude toward tuberculosis of the urinary tract has completely changed. We never call a case of urinary tuberculosis cured, but we consider a case which shows no symptoms following operation as being arrested and entitled to sufficient long standing observation. We believe that almost no case of urinary tuberculosis is hopeless. By careful attention to diet, hygienic measures, feeding, the administration, in selected cases, of tuberculin, the alpine light, the Krohmeyer lamp, and other therapeutic agencies, marvelous results are obtained in the treatment of this much neglected group of cases.

The following case report is a good example of present day methods and gives the reader a very clear picture of how these cases are now being handled. It is also descriptive of the post-operative care following nephrectomy for renal tuberculosis where there is a mild tuberculous cystitis as a complication.

M. B., male, aged 40. History: Recurrent pain in right kidney region radiating to the bladder region. Frequency of urination and incontinence. Physical examination: No abnormal conditions noted.

Cystoscopy: Evidence of inflammation in the trigone. Elsewhere the bladder seemed normal, except in the region of the right ureteral orifice which was bulging into the bladder in a cervix-like manner and exuding a plug of tenacious pus.

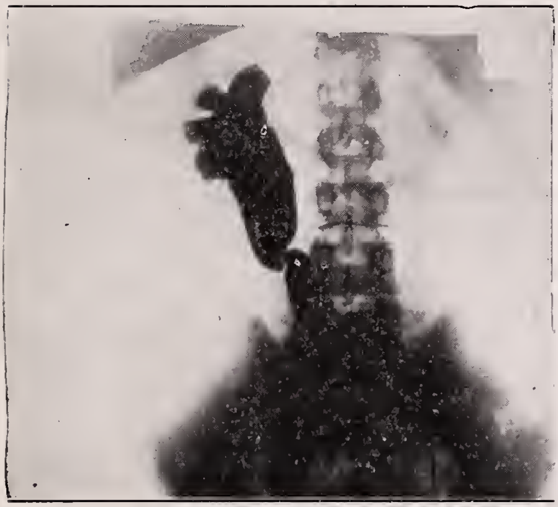

Fig. 5. A scar frequently found and represents what we think is a healed tubercle which has not gone to caseation. Note the fibrous thickening of the capsule of Bowman.

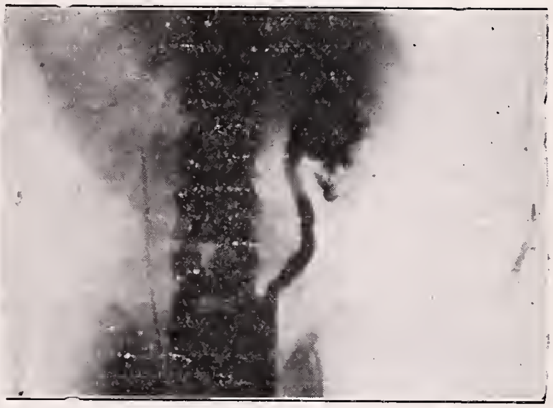

Fig. 6. An old caseous area walled off by fibrous tissue. No tubercles were found.

Report of Ureteral Specimens

Character	Right	Left
Urea	Milky	Bloody
	4.4 gms per L	4.4 gms per L

Phenolsuphonephthalein.

Appeared	Right	Left
Per Cent	19 mins	6 mins
Time	2%	5%
[illegible]	10 mins	10 mins

Microscopic, wet specimen, for epithelial cells and detritus.

Report of X-ray examination: Both kidneys appeared normal in size and position and the only evidence of calculi in the urinary tract was a shadow in right kidney region, circular in shape and the size of one's thumb. The right pyelogram extended to the circular shadow and gave the impression that it was a calcified tuberculous abscess in the right kidney and the pyelogram showed several filling defects and shagginess indicative of tuberculosis. The right ureterogram showed a dilated ureter which was distorted and there were several filling defects suggestive of presence of tuberculous granulations.

Operation: Under para-vertebral anesthesia a right nephrectomy and right ureterectomy were done. The pathological report of the resected kidney and ureter was positive for tuberculosis of the kidney and ureter and calculi in the pelvis of the kidney. After three weeks' convalescence, he returned to his home, having been referred to the Urological Tuberculosis Clinic for further care and observation.

At the clinic he was advised regarding rest, fresh air and diet and was given serial dilutions of old tuberculin hypodermatically and mercury vapor quartz lamp treatments twice each week over the vesical region and nephrectomy wound, methylene blue, grs I, t. i. d. for five days, together with weekly vesical instillations of one per cent methylene blue in seven per cent saline solution. He became free from symptoms after a few weeks treatment. The wound closed and he returned to work apparently well; however, he was kept under observation and care for about a year as it is advisable to care for these patients for this period of time in order to prevent possible recurrence. At the present time this patient is thought to be an arrested case as he has no recurrence of symptoms and is going about his daily work in a normal manner.

SHOWING RESUME OF STUDY OF 63 PATIENTS UPON WHOM NEPHRECTOMY FOR TUBERCULOSIS OF THE KIDNEY HAD BEEN DONE

Male	Female	Age	Hospital Convalescence	Operative Deaths	Deaths Occuring After Operative Recovery	Present Status of 40 Cases Followed to Date	Cases Taking Post-Operative Treatment
36	27	2nd decade 11% 3rd decade 35% 4th decade 35% 5th decade 11% 6th decade 8% Youngest, 13 Oldest, 60 Average, 31. 6%	Paravertebral Anesthesia—13 Average, 20 days Paravertebral Plus ether—18 Average, 22.6 days Gas-Oxygen Ether—32 Average, 29.2 days	2 cases	1—17 days 1—25 days 1—34 days 1—8 mos. 2—2 yrs. 1—10 yrs.	19 free 13 frequency 8 dysuria 6 haematuria 38 gained weight 2 lost weight	16 cases 8 entirely free 8 moderate symptoms All have markedly improved

A review of the results obtained with the group of patients previously mentioned might be interesting. The operative mortality was two patients or 3.2%. Number of deaths occuring after recovery from operation were seven or 14.7% of the total. Number of deaths occuring one year or less after operation were 4. There were two deaths two years after operation and one the 10th year after operation. The greatest number died the first year after removal of the kidney. It seems that if patients can survive the first two years, they then improve rapidly and have a good chance to live a very comfortable life. This indicates that symptoms diminish in intensity as one gets farther from the operation. This is apparently due to the healing of tuberculous lesions of the stump and bladder.

We were able to follow up many of these cases for several years. Their status was as follows:

19 had no symptoms whatever.

21 had symptoms ranging from burning and frequency to a slight frequency.

6 showed traces of hematuria

38 gained up to 35 lbs. in weight and two did not gain in weight.

The results shown here do not indicate a rapid subsidence of symptoms, but each patient showed improvement under treatment.

CONCLUSIONS

1. Renal tuberculosis can heal under proper care.
2. The finding of tubercle bacilli in a kidney does not indicate that it should be removed.
3. Renal tuberculosis is often bilateral.
4. A tuberculous kidney should not be removed unless there has been destruction of tissue with the usual formation of toxic properties.
5. The removal of a toxic tuberculous kidney will improve one's health to such an extent that if there is a mild involvement of the other kidney it might be arrested. All of these cases should receive medical care just after the operation until all symptows are relieved.

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Peculiar Condition in Head of Humerus Resembling Calve-Perthes Disease of Hip Joint— In Panner's three cases, in children aged 10 or less, the symptoms followed a definite trauma. Roentgen examination revealed characteristic changes in the structure of the head of the humerus, slight in the first stage, showing atrophy and rarefaction in the florid stage. After a variable period return to the normal condition was seen, with apparently complete restitution (in the first case not until after three years). Treatment consisted only in guarding the arm, as by exemption from gymnastics.

VESICO-VAGINAL FISTULA*

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Louisville.

The surgical problem presented by this report is a very old one. Hippocrates, we are told, recognized the condition. It was van Roonhuysen who first suggested closure by suture, Mackenrodt who first dissected the bladder free from the vagina and sutured it independently, Trendelenburg who did the first successful suprapubic transvesical closure, J. Marion Sims who established his four principles, and others too numerous to mention in this brief report have added luster to their names by their work on the subject. Much has been done, too, by our obstetricians in the way of prevention. The condition, however, remains with us in all its grades of severity and at times taxes surgical ingenuity to the utmost.

Many methods of closure have been practiced varying from the rather simple, standard closure of small, easily accessible fistula to the more complicated suprapubic approach, and use of vaginal flaps and even the uterus to cover the defect. Occasionally a case, because of repeated operations with loss of tissue or other reason may be practically impossible of closure. Then colpocleisis, the method used in the case herewith presented, may be considered.

Colpocleisis, the closing of the vagina at any point, was first suggested by Jabert, in 1836, and was first successfully done by Simon, in 1855, to secure urinary continence in an incurable vesico-vaginal fistula. Our textbooks on urology and gynecology have little to say about this operation though it is usually mentioned as a kind of "last resort" measure. Kelly in his gynecology remarks that this operation has been done more or less ever since Simon's introduction of it, but that none of the eight indications given by Simon now hold.

We do not advocate colpocleisis in the treatment of vasico-vaginal fistula; yet, the following case report suggests its possibilities for the occasional pitiable subject for whom all other means have been tried and have proven just so many failures.

Case No. 41313. Mrs. Bertha S., white, aged 47, admitted to St. Anthony's Hospital December 29th, 1927. The essential features of the history of the case were: For one year previous to November 1926, on which date she entered another hospital, she had irregular, profuse, uterine bleeding. Radium was used in the cervix in November and again in December of this year. About six months later urine began to pass through the vagina. Bleeding had ceased. Biopsy had proven negative for cancer.

In August, 1927, the first operation for closure was done by the vaginal route; no description of technic. In September, 1927, the second effort at closure was made on the same general plan. She was admitted to St. Anthony's Hospital December 29th, 1927.

The patient's general health at this time was excellent. She complained only of the leakage of urine. On examination the cervix was found to be practically destroyed, a depression instead of a projection presenting; the anterior vaginal wall was much roughened and contracted by scar formation, and three separate fistulae between bladder and vagina were discovered by the passage of dye and of instruments, all high in the vagina and close to the cervix. Blood count and blood Wassermann were negative. Urine not examined at that time. Because of the extensive loss of tissue we wanted ureteral catheters placed before attempting closure, but were unable to locate the orifices. Dr. Owsley Grant was called and twice tried to locate the orifices without success.

On January 23rd, 1928, Dr. Grant and I together tried a suprapubic, transvesical closure and failed. On Febrauary 17th, 1928, we made another attempt by the vaginal route and only succeeded in closing part of the area leaving one large tract where there had been three smaller ones.

Upon finding that our patient was willing to face the consequences, I suggested that we close the vagina as high as was possible and yet stay in normal tissue. This was done April 5th, 1928. She recovered promptly, she had perfect control and bladder capacity was increasing when she was dismissed from the hospital May 13th, 1928.

We have had the opportunity of observing this patient several times in the past two years, the latest only two days ago at our office, and she declares that except for frequency at times she has no difficulty whatever with her urinary apparatus. Bladder capacity is now seven to eight ounces. Urinalysis made two months ago showed a trace of albumin, an occasional red cell and a few pus cells. Reaction was alkaline.

Remarks: This case is presented primarily to call attention to a possible means of gaining control of the urine in certain very bad cases; to reemphasize the importance of prevention, and, in case of operation, the importance of saving tissue. It is our belief, further, that irradiated tissues heal poorly at least for a considerable period of time following the use of the radium.

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*Read before the Jefferson County Medical Society.

DISCUSSION.

Owsley Grant: Dr. Hume has sufficiently described the technique employed in our final operation in the case he has reported. We saw the patient a few days ago. Vesical capacity is now about eight ounces, the vesical interior is perfectly clean, the ureteral orifices plainly visible. The reason we could not locate the ureteral orifices on the first two attempts was that there was so much destruction of tissue in the lower vesical segment that no water distension could be secured.

Radium for carcinoma of the cervix should be administered only by skilled experts. Those unfamiliar with the proper screening are certain to have serious results. Improperly handled the rays are not confined to the diseased tissue but extend through into the side of it and the bladder mucosa is a site of serious disturbance. This may vary from a submucous ulcer which is extremely painful, causing severe spasms each time the bladder contracts to empty itself and is one of the painful results which follow the use of radium. While it is not so serious as a complete perforation, it is much more painful and discommodes the patient even more than the true vesical vaginal fistula. These ulcers do not heal readily but respond best to gradual dilatations, mild fulguration about the edges and soothing irrigations. Perforation has occurred extremely frequently following this treatment and while some contend that it makes no difference what happens to the surrounding tissues so long as the carcinoma is destroyed, I am sure you will not obtain a very high affirmative vote from the women who so suffer. Carcinoma is not definitely a result of derangement of local cell growth but is probably a manifestation of some systemic bio-chemical process that we do not completely understand at present. It will not do, then, to be careless about the destruction of the local manifestation.

The reason this woman required so much surgery was that the vaginal tissue had completely degenerated. As the result of the use of radium there was practically nothing but scar tissue. I do not recall how many operations we performed on this patient—three or four—and each time getting a little further away from the fistula hoping to find some viable tissue which would enable us to close it. The suprapubic transvesical method failed because we were unable, on account of extensive mucosal degeneration, to get enough live tissue to make a perfect closure, but in loosening the mucosa at this time we made the possibility of further success more hopeful.

The case reported illustrates what may happen as the result of radium application. It may not only cause perforation of the vesico-vaginal wall in cases of this kind, but in addition may create a very serious and grave condition because of devitalization of tissue and ulceration which may persist despite our efforts to produce healing. Urologists have ceased to use radium in the vesical cavity in the treatment of tumors, as it causes more destruction and discomfort afterward than it does good. Diathermy may occasion about as much trouble. The fact is it may pass through the vaginal wall in this type of cases and cause very definite destruction of the vesical mucosa.

Simrall Anderson:. Recto-vaginal fistulae following delivery are the ones most difficult to close on account of infection from the rectum. Vestico-vaginal fistulae are less serious and more easily handled. Many of them close without any treatment.

I have seen no case comparable to the one reported by Dr. Hume, due to the effects of radium. My views are in accord with those of some other observers who say: "Look out for too much radium." I can readily realize how difficult it would be to close a fistula after the destruction of tissue from an excessive amount of radium.

Louis Frank: I am very much interested in the question of the treatment of lesions by the use of radium, and I rise to discuss this case for the fear of misinterpretation by those who may read this report and Dr. Grant's discussion.

In the treatment of those diseases where radium is applicable, and I would mention particularly cancer of the cervix, we should consider the end to be achieved rather than some of the unfortunate sequelae which may occur in certain cases. This applies to the treatment of malignancy in other regions than the cervix, whether by radium, the knife, electrocoagulation, or any other means that may be used to bring about a cure or relief of the patient.

It has been well said by Halsted, I think, with reference to amputation of the breast for malignancy, that the closure of the wound should be left to some one other than the operator. The application of this statement is quite plain, and so in any region the first consideration is removal of the malignant focus.

I must further differ with Dr. Grant in the treatment of malignancy of the urinary bladder and prostate. We have not abandoned the treatment of vesical or prostatic carcinoma by means of radium application or other methods which very closely approach it in their action. In the treatment of vesical cancer one must consider primarily one's ability to remove the growth even if removal of the greater portion or all of the bladder becomes necessary with promise of a cure. In such latter instances the ureters may be transplanted. The cosmetic effect and the destruction of an organ are never to be considered in the removal of cancer so long as necessary physiological function can be carried on.

With reference to the treatment of cancer of the cervix and other lesions of the uterus with radium: Due consideration must be given to the area involved, with proper protective screening of the urinary bladder and rectum. With these precautions there will rarely be such a result as occurred in the case reported by Dr. Hume. Such sequelae are, as a rule, the result of the misapplication of radium.

I wish to again refer to those urologists who, on account of vesical disturbances, find fault with the application of radium. I would further say that in the case described a condition, as I understand it, has been brought about for which the urologist frequently operates, namely a vesical diverticulum which has been artifically produced. I have no criticism to make of the results, however, and think the case has been admirably handled in effecting relief from a very annoying and obnoxious condition.

J. Garland Sherrill: Every surgeon who has operated for vesico-vaginal fistula recognizes how serious the matter is and how difficult it is to obtain a cure or relief. Therefore we should not criticize the surgeon for using a certain procedure so long as it has relieved the patient. Even if there does occur a vesial diverticulum, I do not believe it is very important. It can be easily proven whether a diverticulum is present or not by making a cystogram. This patient did not have cancer as shown by Dr. Hume's report. The result in this case is exceptionally good. Some of us have operated many times for vesico-vaginal fistula and have not obtained such satisfactory results.

In operating for vesico-vaginal fistula, it is necessary to dissect the urinary bladder free from the vaginal wall as far as possible, and even then if an adequate flap of mucosa is not obtained closure will be imperfect. In those cases where the usual methods to close the fistula have failed the method of Coffey will take care of the situation by transplantation of the ureter.

Lee Kahn: An inaccessible fistula as this reported is made easily accessible if one uses the Schuchardt incision. You will recall, this divides the left labia majora at the juncture of the middle and posterior third, extends up to split the vaginal tube laterally in its entire length and continues down encurving the anal sphincter, ending a finger's breadth behind the anus. Deepening the incision the rectum is mobilized and pushed to one side. By this roomy exposure a difficult deep-seated operation is made easier and practically superficial. For some unaccountable reason this procedure has not attained popularity in this country.

Ten years ago I was impressed when I saw it employed and shortly after had occasion to use it successfully in a previously operated fistula of this type. The extensive wound makes the operation appear more formidable than it really is. It is very helpful and I am sure much easier than Dr. Hume's method. I congratulate him on his success in this difficult piece of work, relieving a most distressing condition.

Walter Hume (in closing): I wish to thank the gentlemen for their discussion. As stated in my report, this operation is not advocated as a treatment of vesico-vaginal fistula, and we may never perform another one. However, should we encounter another case just exactly like the one reported, a similar procedure would probably be followed. These fistulous tracts had existed for a long period of time, and the patient had been operated on four or five times without success. The fistulous opening had become so large that very little tissue remained for use in closure. The question of transplantation of the ureters was considered. I selected colpocleisis in preference to ureteral transplantation.

The patient is still under observation, and I think the prospects of serious infection are now remote. In my opinion she will have little further trouble. Her age and the influence of the radium on the uterus are to be remembered. At any rate she now has perfect control of the urine—a result which she desired more than life itself.

Medicosocial Protection of Mothers in Russia. Perez states that the conditions of mothers (especally unwedded mothers), and of infants have improved in Russia during the last few years. He reviews several phases of social insurance and governmental aid for proletarian women and their infants. The author claims that, because of the establishment of welfare centers devoted to the care and protection of mothers and infants, the general mortality, which during the period of 1911 to 1914 was 28.6 per thousand, diminshed in 1925 to 23.9 per thousand, and the infant mortality, which during the same period was 26 per cent, diminished in 1926 to 19 per cent (and in the larger cities to the even lower percentages of from 11.3 to 13.4). The rate of births over deaths in 1925 was 21.1 per thousand. Russia thus represents one of the countries in which the population increases rapidly. In 1928, Russia had 868 infant shelters, 114 welfare centers for mothers and their children, 348 asylums for children, 11 asylums for unwedded expectant mothers, 708 free dispensaries for children, 485 dispensaries for pregnant women, 140 dispensaries for medicolegal work, 549 dispensaries transportable for campaign purposes, and 12,221 beds for delivering women, while in 1917 the country had only 5,280 beds for that purpose.

SENSITIZATION*

Philip F. Barbour, M. D.

Louisville.

In the wholly normal body, nature has elaborated certain physiologic processes by which a foreign substance introduced in a normal way can be assimilated or eliminated without producing any deleterious results. Sometimes by a fluke of the gametes certain inherited tendencies change the living cells so that substances which usually cause no injury may produce very service symptoms. Thus quinine particularly and a number of other drugs, as mercury, arsenic, bromides, etc., in certain people may cause high temperature, an irritation skin rash, a leucopenia and other noteworthy symptoms. We have termed such persons as sensitive to these drugs. While the phenomena are well known and have been commented upon for more than a century, we still have no adequate explanation for the fact and we do not fully understand the mechanism or the rationale of the reaction. We have advanced only sufficiently far as to have classified and grouped those agents which are most frequently followed by such strange reactions. The drug sensitazation, however. is quite rare as compared with the more important other members of this group, hayfever, asthma and eczema, which also are hereditable and which do not yield readily to desensitization.

There are many instances of this type of sensitivity, which have one feature in common, that it is not the result of an antigen antibody phenomenon such as occurs in the case of a serum sensitization, which will be discussed somewhat further along in this paper.

The response to sensitization in the case of drugs is fairly prompt, though it may vary in the time and also in the severity of the reaction, depending upon unknown factors, and this applies also to asthma and eczema. A meticulous investigation of these factors should prove of very practical help in the treatment, but no adequate work has as yet been done.

Another phase of the process is the sensitivity to sugars which lies back of many cases of facial eczema. I have found this to be an inheritable fault, which is quite troublesome in the feeding of certain babies. The reaction is delayed in such cases, as also is true in those children who tolerate fats badly. Here the physiologic upset may not occur oftener than every two to three months.

This lack of the ability to handle sugars and fats without marked disturbances of the digestive system is less dramatic but none the less is clinically as definite as the reactions to a protein sensitization.

In this connection, we must note also that there is a marked difference in the production of sensitization of a mucous membrane and the subdermal tissues. It appears to be almost impossible, for instance, to produce a sensitization to the hayfever pollen in those people who are not, so to speak, predestinated to hayfever. There are, however, some very interesting experiments in progress now bearing upon the transference of an acquired antigenic sensitization to another person by parenteral injection.

A second type of sensitization is the well known tuberculin reaction. The skin of a tuberculous individual is hypersensitive to the injection of tuberculin. It is not fully agreed, however, whether this is due to the absorption of the products elaborated in the tubercle bacillus in its growth, or its degeneration or the interaction of these upon the tissue cells, though it must differ from the commonly accepted changes in the local tissues. This local reaction constitutes the Von Pirquet or the Mantoux test. There is, however, a mass action in tuberculosis by which a whole lobe may become suddenly consolidated in the so-called allergic tuberculosis.

A third group of sensitizing agents presents the most striking and dramatic effects. Let us study briefly the sequence of events following the injection of serum albumin into the tissues. We are trying here to unravel some of the mystery of life, the reaction of the ultimate living cells to disease processes, the secrets of immunology, the antagonism of life to lethe.

When a foreign protein is injected into a normal animal it acts as an antigen and the body cells produce an antibody which is attached to the cells and is termed a cellular antibody. The patient is said then to be sensitized. After the lapse of a sufficient time a second injection of the same protein will react with the cellular antibody and produce a highly toxic compound. There are a number of theories which have been advanced to explain what this toxic product is, but until the present there is no real agreement. Death, more sudden and certain than from the strongest poisons, follows anaphylactic shock in the lower animals, and in human beings severe and alarming and rarely even fatal symptoms may result.

Sensitization to a foreign protein then is a formidable acquired condition, and has a most important practical bearing because sera are used so generally, not to say promiscuously, in the treatment of various diseases. And a sensitized cell remains sensitized for several years at least.

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*Read before the Louisville Medical Chirugical Society,

A practical question presents itself, when diphtheria antitoxin has been recently given and tetanus antitoxin is indicated, how can the patient be desensitized? Fortunately for this third group desensitization can in a measure be attained. To return to the modus operandi of sensitization. It has been found that repeated injections of a foreign protein, at short intervals, increases the antibody response so that all the antibody formed cannot be attached to the cells. There remains a certain free amount which will neutralize the antigen without the formation of toxic material. From the daily administration of antimeningococcus serum, for instance, there will not occur any anaphylactic symptoms unless there is an interval of over ten days between two consecutive injections. Patients can then be desensitized by small, sublethal amounts of the serum injected at short intervals, sometimes called the Besredka method. Absolutely, serum must not be given intravenously in such cases, as the cells are overwhelmed and disaster will occur, especially when there has been any asthmatic sensitization to horse hair, dandruff or serum.

Three conditions very common in children, asthma, eczema and urticaria, have sensitization as a basis in many cases. They present many difficult problems, are often associated, or follow one another, and are especially hard to cure and to keep cured.

Eczema in the nursling may often be traced to a low grade sensitization in the mother to some particular foods. She may not be conscious of any overt indigestion and yet be passing through her milk sensitizing substances. There is some question as to whether there can be any passage of such substances through the placental membrane to give, so to speak, a direct sensitization of the embryo's cells. Another hypothesis is that these products pass into the gastrointestinal tract and through the intestinal mucosa which is not intact and impermeable in early life. This is to all intents a parenteral infection because it has not passed through a normal mucous membrane. The elimination of all the sensitizing foods will relieve the eczema, but is attained only with great difficulty because often these children are sensitive to so many different foods that maintenance of nutrition is difficult, and a skillful dietetian is often at a loss to formulate a sufficient diet. In this connection one recalls that the anaphylactic shock in the dog is most intense on the liver and portal circulation, and while we are often reminded that the human and canine livers are not identical in function, yet much experience with eczema has demonstrated that efficient functioning of the liver cells will aid materially in securing beneficent results.

Asthma is too big a subject to be discussed in this paper, but the facts of sensitization which represent perhaps only one phase give some valuable lights on the treatment. A certain number of cases are definitely due to a bacterial antigen. The bacterial flora of the nasal cavity are so varied that the offending bacterium may easily be overgrown. Persistent search for an elusive organism will sometimes prove very remunerative. The focus of infection may be a sinus. A rhinologist who has given especial attention to the sinuses can clarify such cases. Post-cervical adenitis, snuffling, clearing the throat, and post-nasal discharge should arouse suspicion of sinus disease. The removal of any such focus will materially lesson the asthmatic attacks.

In conclusion, the following list comprises many, but not all, the diseases in which sensitization is said to play a part: Anaphylaxis, asthma, hayfever, eczema, certain food and drug allergies, serum disease, dermatitis venenata, bacterial infections, rashes of contagious diseases, rheumatism, enuresis and hemorrhagic nephritis.

DISCUSSION

Louis Frank: I was impressed with the fact that the essayist spoke of not being able to relieve senitiveness in every case. The older I become the more I believe in heredity in the transmission of allergic manifestations. At the same time there are probably a great many individuals who are sensitive to various forms of infection. I hardly think in two generations anyone could establish that relatively. The tendency might be carried through quite a number of generations. We know that personal characteristics go through a great many generations before they disappear. So I think it is with immunity. It would require a long time before one would establish an immunity susceptible of transmission.

R. Glen Spurling: How are we to determine, before administering serum, whether the patient is sensitive or not? Is the skin test sufficient, and how would you make the skin test?

Philip F. Barbour, (in closing): Answering Dr. Spurling's question: I would administer one minim or less hypodermatically. That will determine whether the patient is sensitive to that particular serum or not. I have enjoyed the discussion; the fact is I wanted to get some light on the subject myself. The question of sensitization is not well understood. The more I read about it the more varied are my views as to the causative factors. That there is an hereditary type of sensitization seems to have been definitely proven. We know that eczema may be hereditary. The most prolific causes of we may in teaching them that they should work, rest and play.

Masses of us Americans are ruining ourselves sensitization are probably the food proteins.

There is a marked difference in the sensitivity of individuals to hay fever pollens. It has even been found impossible to produce hay fever in people insusceptible to the disease.

In regard to the local injection of serum into the arm: It is possible wherever that reaches it will be sensitive for the time being. One thing that affects our results is that true sensitization is practically always permanent. If you are going to desensitize the patient the procedure must be repeated at varying intervals. It is possible that one or both parents may be sensitive to one known factor, and their child may be sensitive to some other type of infection. Sensitivity of the body cells seems to be due to heredity. The child may be made temporarily immune by mother's milk. That is the reason a child ten months old may be immune to scarlet fever and other infectious diseases. This is merely passive, not a permanent immunity of the cells. I think the reason we see mild scarlet fever is that children have a partial acquired immunity from their parents. Many children seem to be immune to this disease.

Comparative Blood Pressures in Two Arms.—One hundred and twenty-five patients were studied by Kay and Gardner and 500 readings were made. Variation of differences of from 5 to 10 mm. in the systolic and diastolic readings were considered within the normal. One hundred cases, or 80 per cent, were within normal limits, while 25 cases, or 20 per cent were distinctly abnormal. Fluoroscopy was done in all of these and many of them were radiographically checked. The arteriosclerotic and hypertensive patients more often show these variations. The greatest differences of blood pressures are found in this class of patients, and especially those with angina pectori and aortitis. The group, which is second in importance, are those patients who have vasomotor disturbances, such as occur in the menopause. Patients above 45 years have the most marked variations. Sex apparently plays no part. The right arm is highest in the majority of cases. The authors believe that the cause of these differences is varying functional changes occurring in the blood vessels of the two arms.

WOMAN'S AUXILIARY

PRESIDENTIAL ADDRESS

THEY CHALLENGE US

By Mrs. E. B. Houston, President, Murray.

They challenge us.
Who challenges us?
The generation yet unborn.

When the Apostle Paul spoke his approbation of Timothy he used these words, "When I call to remembrance the unfeigned faith that is in thee, which dwelt first in thy grandmother, Lois, and thy mother, Eunice, and I am persuaded is in thee also."

Is not this a pointed reminder that we shall expect to find in the young generations that which has been transmitted to them by previous generations? Do we feel as we should. the responsibility that is ours to the men and women, the boys and girls of the tomorrows? Can you not see their hands stretched out to us begging us to give them happiness? When we interpret their greatest desire to be for happiness, we must analyze happiness. In so doing, do we not feel that we have established reason enough for the existence of a Woman's Auxiliary to the Kentucky State Medical Association? For is not health one of the great factors of happiness? Then, is it not for health's sake that we are organized?

What is more inspiring than young manhood and young womanhood with all of their faculties clear, their bodies well rounded and erect, facing life's privileges and possibilities. In order that this may be true, the baby must be well born. Oh, the responsibilities and possibilities of that father and mother! This baby must also be well reared so that in turn it may become that much improved father and mother of the next generation. Happiness. What is its deepest meaning? Happiness is great love and much service. If one's heart is full of love and one's hand is full of service, he has no morbid problems.

He has solved the riddle of life. Could our organization adopt a better motto than "Love and Service?" Let us get a vision of what should be, and do our part in bringing it about. Our fathers, husbands and sons have had great visions. Let us not fail them. When we have something to live for life is much more worth the living. There is more stimulus in a great aim than in any other intoxicant. It raises every faculty of you to the highest power. It clears your brain, fills your heart and raises your happiness to flood tide. Living is so much better than just passing the time. Then let us meet our challenge by helping the children of today and the parents of tomorrow keep fit. Assist when physically by keeping everlastingly at it. It is much better to keep fit by learning to let go at the proper time. The very cream of life comes from rest. The blush, the aroma, the shine of your best work lies in the hours of idleness massed behind it. The secret of brilliant work is in throwing every atom of your reserve force into it. Perpetual exertion begets mediocrity. The more thoroughly you do nothing when there is nothing to do, the better you can do something when there is something to do.

When we know that these rules of health are being broken every day, are we not condemned if we do not play our part in preaching the gospel of correct living? Do not be impatient because of the immensity of the job. The clock has millions of tick-tocks to make, but it has a moment in which to make each one of them. Let us do what is marked out for us. It is for us in this world to live "by the day" and not "by the job." Where we leave off, those that follow will begin. To them we will throw the torch. If we do our part well I am sure they will not fail us. Create a public demand for health.

Be Strong!
We are not here alone to play, to dream, to drift;
We have hard work to do and loads to lift;
Shun not the struggle—face it; 'tis God's gift.
Be Strong!
It matters not how deep intrenched the wrong,
How hard the battle goes, the day how long.
Faint not—fight on! The tomorrows bring the song.

Possibly some of you are already saying "I am getting old, I can not do this or that." It has been said that "So long as one keeps at work, continues to learn, and has faith, he is young."

Whoever does not work, does not learn, and has no faith, is old even at thirty. Old age is a state of mind.

Do you not see that there is more for us to do than to administer to the physical, we must feed the mind and the soul.

Has not our coming together taken a few years off your age? Does not the meeting of these Kentucky women and their husbands, and knowing those from other states and meeting our national officers, and enjoying the wonderful hospitality of these splendid Bowling Green people, does not all this give you a brighter outlook on life? When you are in your home, you will no doubt spend many pleasant moments recalling the occurences of this meeting. We may be poor in money, but may be rich in friendship, in faith, in enthusiasm, in work and in thought. This one truth we would like to get across to those with whom we work. While we help administer to the body let us endeavor to administer to the mind and soul. But I could remind us that there is no body, mind or soul that needs us quite so much as do those of our husbands, fathers and sons.

Let our purpose be always to uphold them first, then direct our efforts toward the great ideals and blessings for which they are giving their very lives, better health, improved living conditions for all to whom they administer. Women, we have just cause to be proud of our Doctors and I am sure each of you are anxious to do your part in preserving their life histories. On earth there is no greater service than the alleviation and prevention of disease.

Then let us do our work well, both the unseen and that to be seen, making the house where God may dwell beautiful, complete and clean.

THE QUESTIONS: WHO AND WHY?

By Mrs. J. Newton Hunsberger, Norristown, Pa., Sept. 17, 1930.*

We are a group of women having a mutual sympathy and friendship; each and every one having the same right of membership in this Auxiliary. It is a marital relationship. We do not have to delve into musty records to verify it for we are now the allies or reserve force of that great ARMY OF LIFE SAVING MEN, who are fighting on mutual soil for one great and glorious purpose.

Our duties and opportunities are legion, they are only now presenting themselves.

The splendid records we write today were made possible, only, because the women who did the pioneer work gave of their best. And we honor them for it.

As the whole is made up of its component parts so we, individually, must do conscientious work that our high standard may be maintained.

Most problems have many aspects and I take it our Auxiliary is a TWO SIDED question with many physicians. We have been accepted by the majority but I am sorry to say, not by all. Some still fear we will throw something into the machinery that will cause disaster.

I say to you let's take it as a challenge and prove to the members of the medical profession that we ARE and ARE FOR A SPECIFIC PURPOSE and we will in time make their vote unanimously for us.

AND HOW?

1. Organize for friendship's sake.
2. Organize for the sake of self-education.
3. Organize to educate the public.
4. Organize to PUSH every good work, authorized by the medical profession and recommended by them to the Auxiliary.

For in organization there is real, strength.

In a word let us be organized and prepared as the Red Cross was to answer when the call comes, for service.

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*Extracts from an address given by the National President at the luncheon meeting of the Woman's Auxiliary to the Kentucky Medical Association.

"The human Will, that force unseen, the offspring of a deathless soul, can hew the way to any goal, Though walls of granite intervene."

In organizing for friendship's sake the Auxiliary found 'you for me.'

We are different from other women's clubs. Most clubs are composed of women whose husbands come from many professions and trades. We are of one profession with a common interest.

Doctors' wives are usually so engrossed with household and office duties and responsibilities that they have little or no time or opportunity to acquire the knowledge they are supposed to have so that they may combat the assertions made by the misinformed sister whom they meet continually at the card party or afternoon tea.

With these problems in view some of our able women have prepared abbreviated studies; which may be used as self educators and to an advantage in Parent Teacher's organizations and other clubs, also.

The fourth number "Communicable Diseases" will soon be ready for distribution.

Through these studies we hope to teach the importance of 'birth registration', 'diphtheria immunization', 'small-pox vaccination,' 'the Dick test,' 'pure foods, milk, and water supply,' the plan of procedure to secure better housing conditions and sewage disposal.

Let us preach preventive medicine by having our own periodic health examinations and our children of pre-school age ready to enter their first year physically fit.

Auxiliary members can, by setting forth that which has been proven, render double service to the laity and the medical profession.

Free clinics conducted by unauthorized individuals are a menace to the profession.

Our own medical society should guide our activities in public health education.

We are justified in the belief that Hygeia was brought from its indebtedness to its present status through the help of the Auxiliary, and we should continue to laud it as a valuable asset to health education.

The Medical Benevolent Fund, if your state has one, should be our foster child. We cannot make better use of the money derived from a card party or some other benefit than by adding it to that benevolence.

Let us work with and through clubs and organizations in which we hold membership to control the type of health talks arranged for their yearly programs.

And finally I hope you will profit from the recommendations handed down from the National meeting in Detroit; that you will use the new treasurer's recepit forms conscientiously so that we may have a correct record of our paid-up membership; that you will encourage your Publicity chairman by sending promptly an account of your activities, then read your state Journal to see that they were reported as you would have it done.

The A. M. A. have assigned two pages in the Bulletin to our use this year. We will make our first appearance in the October number.

I truly appreciate being your guest and participating in your hospitality. I shall take back home a store of inspiration from your meetings for my year's work and I leave with you my warmest affection and my sincere good wishes that all your efforts may be rewarded, many fold.

MINUTES OF THE EIGHTH ANNUAL MEETING OF THE WOMAN'S AUXILIARY TO THE KENTUCKY STATE MEDICAL ASSOCIATION, BOWLING GREEN, KENTUCKY, SEPTEMBER, 15-18, 1930.

The Executive Board of the Woman's Auxiliary to the Kentucky State Medical Association met at 2:30 p. m., Monday, September 15, 1930, at West Hall, Western Kentucky State Teachers College, Bowling Green, with the President, Mrs. P. E. Blackerby, Louisville, presiding. A quorum was present.

The invocation was offered by Mrs. J. T. Reddick, Paducah.

Eleven members responded to roll call.

The Minutes of the last meeting were read and approved.

The President appointed Mrs. W. E. Gardner, Mrs. Geo. A. Hendon and Mrs. A. T. McCormack, a Courtesy Committee and escort for the national president, Mrs. J. Newton Hunsberger, Norristown, Pennsylvania, scheduled to arrive on the five o'clock train.

The President appointed Mrs. B. K. Menefee, Mrs. W. M. Martin, and Mrs. R. T. Layman as the Resolutions Committee, Mrs. Layman to serve as Chairman.

The Nominating Committee was elected, as follows:

Mrs. J. T. Reddick, Paducah, Chairman.
Mrs. R. T. Layman, Elizabethtown.
Mrs. W. F. Boggess, Louisville.
Mrs. Ezra Titsworth, Wickliffe.
Mrs. S. J. Smock, LaGrange.

Reports of Standing Committees were called for in the following order:

Organization—Mrs. S. W. Bates, Louisville, Chairman.

Absent: No report.

Ways and Means—Mrs. R. L. Collins, Hazard, Chairman.

Absent: Reported request sent to County Auxiliaries for donation, as year before.

No response, except from Jefferson County which gave $20.00.

Hygeia—Mrs. R. L. Collins, recently appointed.

No report. Appeal for cooperation sent.

Public Instruction—Mrs. A. T. McCormack, Louisville, Chairman.

This report includes that of the Editor: Jane Todd Crawford Project: Study Course in Medical and Health Laws and Radio work. The radio work had grown so heavy that a sub-committee was appointed, with Mrs. W. A. Onderdonk, Louisville, Chairman, who was absent. Reports read by Mrs. McCormack. Reports appended.

The report of the Secretary, Mrs. J. W. Sams, Crestwood, read by Mrs. V. A. Stilley, Secretary pro-tem, adopted. Discussion on ways and means opened by Mrs. J. T. Reddick. No decisions made.

Adjourned.

Respectfully submitted,
(MRS. V. A.), MAY C. STILLEY.

The opening session of the Woman's Auxiliary to the Kentucky State Medical Association was held in the lobby of West Hall, Western Kentucky State Teachers College, Tuesday, September 16th, at 9:30 a. m., with the entire assembly singing "America," followed by the invocation pronounced by Rev. Charles G. Leavell, Rector, Christ Church, Bowling Green. Immediately following the invocation the body assembled in the auditorium of West Hall for the regular program and business session.

Mrs. John H. Blackburn, Bowling Green, delivered the address of welcome, assuring the visitors that they were thrice welcome to the city, to the homes, the places of interest and to all entertainments provided for them.

Mrs. Hugh N. Leavell, Louisville, responded in a most happy way for the guests. Due to the absence of the Secretary, Mrs. J. W. Sams, on account of illness, the President appointed Mrs. V. A. Stilley, Secretary, Pro-tem.

The President asked for the roll call of delegates, which was responded to as follows: Allen, Mrs. H. M. Meredith; Calloway, Mrs. E. B. Houston; Jefferson, Mrs. Hugh N. Leavell; Campbell-Kenton, Miss Pauline C. Haley; Perry, Mrs. H. W. Gingles; Warren, Mrs. C. E. Francis; Marshall, Mrs. V. A. Stilley; McCracken, Mrs. O. R. Kidd.

Minutes of the last meeting, read and approved. Reports of the officers were made as follows: President, President-elect, Corresponding Secretary, Recording Secretary, Treasurer, Historian and Councilors; (same appended). The Parliamentarian reported all things working together for good.

Reports of Delegates. (Appended).

Mrs. R. N. Herbert, National Chairman of the Hygeia Committee, Woman's Auxiliary, American Medical Association, Nashville, Tennessee, addressed the auxiliary on "Hygeia, The Health Journal." Mrs. Herbert brought an inspiring message concerning this authentic health magazine and the goal set by the American Medical Auxiliary. She presented a concise working plan for county auxiliaries. (Address appended).

Dr. Elfie R. Graff, Director of the Maternal and Child Health Demonstration of the State Board of Health at Georgetown, next presented an address on "Posture and Its Relation to Child Health." Dr. Graff used a living model for demonstration, preaching the gospel of proper posture necessary to good health, at the same time teaching, in a practical way, the defects to be regarded in children and corrected by parents, with an admonition to stop and look, as well as listen.

The Historian, Mrs. W. F. Boggess, and the National Chairman of the Hygeia Committee, Mrs. R. N. Herbert, asked for a conference of County Presidents and Delegates immediately after adjournment, in order that they might put working plans for their respective projects into the hands of the county presidents and delegates. (Plans appended with the reports of Mrs. Boggess and Mrs. Herbert.)

Motion carried that Auxiliary send telegram to Mrs. Sams, expressing regrets for her absence.

The President announced that the Art Gallery and Museum in Library Hall would be open for the ladies and a cordial invitation was extended to all who cared to visit these interesting exhibits of rare beauty and pioneer days of Kentucky.

Meeting recessed for the tea in honor of the National President, Mrs. J. Newton Hunsberger, at the Cedar House, held at 4:00 P. M. and to attend the General Session for the public address of the President, Dr. W. B. McClure, Lexington, and the address on "Scarlet Fever" by Dr. George F. Dick, Chicago.

Respectfully submitted,
(Signed) May C. Stilley,
(Mrs. V. A. Stilley) Secy. Pro-tem.

The second session of the Eighth Annual Meeting of the Woman's Auxiliary to the Kentucky State Medical Association was held in West Hall at 9:30 o'clock, Wednesday morning, September 17, 1930, Mrs. P. E. Blackerby, the President, in the chair.

The meeting was opened with prayer by Mrs. W. F. Boggess.

Honored with the presence of the National President, Mrs. J. Newton Hunsberger, Norristown, Pennsylvania; the National Chairman of Hygeia, Mrs. R. N. Herbert, Nashville, Tennessee; one of our own state charter members, Mrs. Irvin Abell, who is also a retired National Treasurer, the President instructed the Secretary to escort them to platform seats.

The reports of the delegates were continued. (These are appended.)

Dr. J. Atchison Frazier, Marion, entertained with historical facts concerning Kentucky and delighted the audience with bird calls of native birds. Mrs. J. N. McCormack moved that Dr. Frazier be asked to repeat his talk and bird calls over the radio as a substitute for some of the unsavory publicity given Kentucky through this medium.

The report on the Scrap Book was made for Mrs. Kenneth Gray, absent, by Mrs. A. T. McCormack.

Mrs. E. B. Houston described the literature for distribution and invited all who were interested to help themselves from the tables, first signing a receipt.

Mrs. R. N. Herbert discussed the Hygeia Project and urged the placing of this magazine in all doctors' offices, schools, libraries and all available places.

The reports of the delegate to the last meeting of the National organization of the Woman's Auxiliary to the American Medical Association, held in Detroit, and of the delegate to the Woman's Auxiliary to the Southern Medical Association, held in Miami, were educational and inspirational. They will be published and we insist that all members read them.

The Chairman of the Public Instruction Committee presented an exhibit of publicity, stating that the work of this Committee has grown ponderous and suggested that separate committees be appointed for Press and Publicity, The Jane Todd Crawford Memorial Project and for Radio.

Mrs. Milton C. Lewis, Nashville, State President of the Woman's Auxiliary to the Tennessee Medical Association, arrived and was introduced.

The report of the Resolutions Committee was read by Mrs. R. T. Layman, Chairman, as follows:

The Resolutions Committee of the Woman's Auxiliary to the Kentucky State Medical Association beg leave to offer the following resolutions:

(1) WHEREAS, a popular and reliable health magazine is desired by the general reading public and by teachers and pupils in schools, especially, Therefore,

Be it resolved:

That the Woman's Auxiliary endeavor to increase the circulation of Hygeia in each county and make a special effort to see that Hygeia is on the table, available to waiting patients, in every physician's office.

(2) WHEREAS, the advantage of radio education along some health line has been opened to the Woman's Auxiliary to the Kentucky State Medical Association, Therefore,

Be it resolved:

That the Auxiliary, in cooperation with State and County Medical Societies, further the development of radio health talks over as many broadcasting stations as possible.

(3) WHEREAS, the Jane Todd Crawford Memorial Fund is steadily growing, notwithstanding this period of financial depression, Therefore,

Be it resolved:

That the Auxiliary, as part of its definite program, stimulate the activity to increase this fund in each county, And,

Since the Woman's Auxiliary to the Kentucky State Medical Association has succeeded in establishing this memorial project,

Be it further resolved

That the effort be broadcasted to interest women in the Jane Todd Crawford Memorial so that all women, everywhere, especially those in organized clubs, may know her story and may express some measure of appreciation for her heroic service to womankind, through contribution to this woman's memorial fund.

(4) WHEREAS, the City of Bowling Green has been so courteous to us during our stay in their city, and

WHEREAS, Dr. H. H. Cherry, President of the Western State Teachers College, and his staff, have generously shown us every courtesy and extended to us the use of West Hall, and

WHEREAS, the press has been considerate and generous in reporting our Annual Meeting, particularly, the Times-Journal and the Park City Daily News of Bowling Green, the Courier-Journal, Louisville Times, and the Herald-Post, of Louisville, and the Nashville Tennessean, Therefore,

Be it resolved:

That we hereby express our gratitude and appreciation to them for their liberality.

(5) WHEREAS, numberous happy occurrences have graced this meeting, Therefore,

Be it resolved:

That, we hereby express our cordial appreciation to the members of the Woman's Auxiliary to the Warren County Medical Society for their kind hospitality and entertainment while in their city, particularly, for the delightful Tea, given at Cedar House and for the luncheon given at the Country Club, and

Further, we, also, thank the Warren County Medical Society for the Barbecue and Burgoo Party given at Beech Bend Park, and

Further, we wish to express our gratitude to our National Officers, the President, Mrs. J. Newton Hunsberger, Norristown, Pennsylvania, and the National Chairman of Hygeia, Mrs. R. N. Herbert, Nashville, Tennessee, for their gracious presence at our Annual Meeting and for their timely, inspiring addresses, and

Further, we, also, appreciate the attendance of the President of the Woman's Auxiliary to the Tennessee Medical Association, Mrs. Milton C. Lewis, Nashville, and,

Further, we give thanks to our retiring President, Mrs. P. E. Blackerby, and her staff of workers for their untiring labors during the past year, and

Further, we thank Miss Agnes Blair for her service, which was rendered so generously, at the registration desk.

Respectfully Submitted,
(Signed) MRS. R. T. LAYMAN, Chairman
MRS. B. K. MENEFEE.
MRS. W. M. MARTIN.

The report of the Nominating Committee was made by Mrs. J. T. Reddick, Chairman, as follows:

President—Mrs. E. B. Houston, Murray.

President-Elect—Mrs. George A. Hendon, Louisville.

Vice Presidents—Mrs. B. K. Menefee, Covington; Mrs. Arthur D. Donnelly, Bowling Green; Mrs. G. B. Wheeler, Hazard; Mrs. George W. Bushong, Tompkinsville.

Recording Secretary—Mrs. O. R. Kidd, Paducah.

Corresponding Secretary—Mrs. C. H. Jones, Lynn Grove. (Appointed).

Treasurer—Mrs. W. C. Dugan, Clark.

Parliamentarian—Mrs. A. T. McCormack, Louisville.

Historian—Mrs. W. F. Boggess, Louisville (Appointed).

Mrs. Reddick moved the election of these nominees, seconded by Mrs. Wm. M. Martin. Other nominations from the floor were called for. None were made. These nominees were declared elected unanimously.

The introduction of the new officers was followed by the installation of the President, Mrs. E. B. Houston. In her Presidential address (appended), Mrs. Houston stimulated the Auxiliary members with renewed energy.

Announcements were made by the President of the proposed program for the year's work in the form of a contest among the several county auxiliaries. Mrs. Hoy Newman made announcements for the Committee on Entertainments.

The meeting adjourned to the Country Club where a most delicious luncheon had been prepared. Mrs. P. E. Blackerby presided as Toast-Mistress, and during the hour very graciously introduced the speakers, Dr. W. B. McClure, President. Dr. Granville S. Hanes, retiring President. and Dr. A. T. McCormack, Secretary of the Kentucky State Medical Association and Chairman of the Advisory Council. Each of the speakers was most cordial and helpful to the women. At the conclusion, Mrs. Hunsberger addressed us on "The Questions—Who and Why" and brought a message filled with timely thought.

The Barbecue concluded the entertainment and proved a delightful relaxation, heartily enjoyed by both men and women.

Respectfully submitted.
(Signed) MAY C. STILLEY
(Mrs. V. A. Stilley) Secretary Pro-tem.

MINUTES OF THE POST CONVENTION BOARD MEETING.

The Post Convention Executive Board meeting of the Woman's Auxiliary to the Kentucky State Medical Association, was called to order by the President, Mrs. E. B. Houston, Murray, at 8:15 o'clock Thursday morning, September 18, 1930, in the Assembly room of West Hall, Western Kentucky State Teachers College, Bowling Green.

The Session was opened with prayer by Mrs. J. T. Reddick, Paducah.

Roll call showed the following members were present:

President, Mrs. E. B. Houston; President-Elect, Mrs. G. A. Hendon, Louisville; Treasurer, Mrs. W. C. Dugan, Clark; First Vice President, Mrs. B. K. Menefee, Covington; Second Vice President, Mrs. Arthur D. Donnelly, Bowling Green; Recording Secretary, Mrs. O. R. Kidd, Paducah; Parliamentarian, Mrs. A. T. McCormack, Louisville; Councilors, Mrs. V. A. Stilley, Mrs. J. W. Scudder, Mrs. H. M. Meredith, Mrs. R. T. Layman, Mrs. P. E. Blackerby, Mrs. B. K. Menefee. and Mrs. W. M. Martin; Ways and Means Committeeman, Mrs. J. T. Reddick.

The President appointed the District Councilors and Committee Chairmen, as follows:

Councilors.

1st District—Mrs. V. A. Stilley. Benton.

2nd District—Mrs. J. W. Scudder, Calhoun.

3rd District—Mrs. H. M. Meredith. Scottsville.

4th District—Mrs. R. T. Layman, Elizabethtown.

5th District—Mrs. P. E. Blackerby, 4617 So. Sixth Street, Louisville.

6th District—Mrs. P. C. Saunders, Danville.

7th District—Mrs. J. E. Edwards. Lancaster.

8th District—Mrs. B. K. Menefee, 2120 Glenway Avenue. Covington.

9th District—Mrs.

10th District—Mrs. H. J Hughes. Richmond.

11th District—Mrs. W. M Martin, Harlan.

Committee Chairman.

Organization—Mrs. B. K. Menefee, 2120 Glenway Avenue. Covington.

Programme—Mrs. G. A. Hendon, 615 Brown Building. Louisville.

Hygeia—Mrs. R. L. Collins. Hazard

Ways and Means—Mrs. J. T. Reddick, Box 13. Paducah.

Public Relations—Mrs. V. A. Stilley. Benton.

Public Instruction—Mrs. A. T. McCormack, Brown Hotel. Louisville.

Scrap Book—Mrs. J. W. Sams. Crestwood.

Radio——Mrs. W. A. Onderdonk, 1016 S. Jackson Street, Louisville.

The Secretary secured the correct addresses of the Board members for use in the year's work.

The contest which is to be promoted throughout the State during 1930-31, was read and approved by the Board.

Copies of the contest will be mailed to the President of each County Auxiliary, as soon as the plans of awarding the prize are completed.

The President, Mrs. Houston, expressed her gratitude for such a splendidly qualified body of women to serve on her Board and stated that she saw no reason why their united efforts should not bring many blessings to Kentucky and our Auxiliary.

Meeting adjourned.

(Signed) MRS. O. R. KIDD,
Recording Secretary.

PRESIDENT'S REPORT

By Mrs. P. E. Blackerby.

We would like to paint a rosy picture of our Auxiliary and its progress, but you must realize that facts however discouraging always serve the best purpose.

Your president is proud to report that she has been given the very best support by the state officers and by the chairman of several very active committees.

Our secretary, Mrs. Sams, has helped in every way possible to maintain an active state organization and has done everything she could to stimulate the local auxiliaries through correspondence and in supplying them with material. Your Treasurer, Mrs. Dugan, has kept the question of the payment of dues before the county auxiliary officers as often as she could, consistently, and retain her jolly manner regardless of results. Your corresponding secretary, Mrs. Freeman, has performed her duties splendidly in supplying the study courses and circularizing local officers and members in regard to plans and programs.

The chairman of the committee on Public Instruction, Mrs. McCormack, has given a great deal of time in editing the Auxiliary columns in the State Medical Journal, accumulating and compiling material for the Study Course and assisting in distributing the programs; leading the campaign for funds for the Jane Todd Crawford Memorial and by initiating the radio work and, later, co-operating enthusiastically with Mrs. Onderdonk, chairman of the Radio Sub-Committee, in making the Radio Broadcasting of Medical and Public Health Programs over WLAP, a really brilliant success.

The State Historical Committee under Mrs. Boggess' splendid leadership, as Chairman, has done most effective work in securing more life sketches and County medical histories for the proposed Medical Book of References. Mrs. Collins, Chairman of the Ways and Means Committee, has been quite active and, as is her custom, has supported and helped the other state officers in every way possible.

I am indeed glad to make special mention of and commend these officers and Committee chairman, but of course their individual reports will acquaint you much better with what has been accomplished, and surely their efforts should be rewarded with your confidence and respect.

It has been my pleasure during the year to visit five county auxiliaries and to assist in the organization of two new auxiliaries, the Campbell-Kenton and Pike Counties; Warren, Letcher, Marion and Hardin County Auxiliaries were also added to the list since the last report.

Notwithstanding the splendid work of my associates it now becomes my duty to call your attention to a situation that makes the report somewhat unsatisfactory, to say the least; Out of twenty-nine counties that have been organized since the beginning, five have ceased to function, entirely, and nine others have become practically inactive. In many of these counties the cause for loss of interest is attributed to inactive Medical Societies.

Your Treasurer's report will show that a larger number of members are in arrears at this time than was shown in the report for last year, although every effort has been made to stimulate the payment of dues. A few counties have contributed to this embarrassment by retaining the collected dues beyond the time for making the report.

In our report to the House of Delegates of the State Medical Association, we have announced that the State Auxiliary is refraining from lapsing any of its membership until the organization has become more stable. We whispered a request to the Delegates to try and save our reputation by urging each Doctor, back home, to add a dollar to the wife's birthday gift each year and label it "For Auxiliary Dues." I would like to urge quite seriously that the members, even though their Auxiliary does not meet regularly, keep paid up, for the sake of good standing in the National, The Southern and the State Auxiliaries.

Many Auxiliary members, seemingly disinterested, have asked the questions, What is it all about? What, with all the other societies, clubs etc., can a medical society auxiliary hope to do? The best answers to these questions are found in the reports of the American Medical Association Auxiliary, the Bulletin of the Southern Medical Association Auxiliary and the published year books and annual reports of our own Auxiliary. I would like, however, to remind you of a few of the accomplishments already attained and to offer a few suggestions that might be helpful in planning future work: First to engage our attention is the Courst of Study—This has already been quite useful, and, new and interesting educational matter is being added right along—Copy for distribution is supplied for this meeting—Each delegate should take home several samples. Your local Study Course should occasionally be enlivened by an address or a paper from one of your local doctors.

The collection of medical history and data for the Medical Book of Reference should prove an excellent assignment for a committee with good leadership.

Auxiliary Aid Committees to hospitals, clinics, infirmaries, foundling institutions, etc., are proving a real opportunity for local auxiliaries in many states and this kind of service reflects to the credit of the medical profession, such as home grown flowers for ward or other unfortunate patients; simple but attractive entertainment for the sick or physically handicapped children in curative or convalescent hospitals; and, committee group meetings at hospital centers for sewing and preparing various materials needed to supply charity beds, wards and nurseries.

Committee sponsoring of health programs through Women's Clubs, Parent Teachers Associations and other clubs, and, aiding in the conduct of diagnostic clinics and child health conferences have afforded opportunity for useful service in many states. Organization of listeners-in in groups for the state radio programs will prove an interesting and profitable service for a special committee.

County Auxiliaries may secure copies of the radio addresses to be used by members, selected to read them as papers before Women's Civic Organizations and in this way further public interest in the progress of medical and public health science. The County Medical Societies would most surely approve of this feature. Certainly the Medical Auxiliary movement has advanced to the stage where we need feel no anxiety as to its being able to answer any challenge as to its field of usefulness.

Our State Medical Association has a most honorable and distinguished history and since it has decreed that there is a good reason for the existence of a woman's auxiliary, the future should afford some opportunity for distinction in the way of a collateral service to the public, that will assure a larger measure of love and esteem for the doctor and a deeper respect for his profession.

THE SECRETARY'S REPORT

The Woman's Auxiliary to the Kentucky State Medical Association is composed of County Auxiliaries and some members of the State-at-large. Twenty-nine counties have been organized with a nominal membership of six-hundred-twenty-five. Twenty-five of these counties are still listed with a paid membership of approximately two-hundred and fifty. Fourteen of these counties have sent reports of their activities for the past year. Four counties have withdrawn; namely, Christian, Daviess, Franklin, and Madison.

Some of the Auxiliaries throughout the state have done a splendid work in presenting the Study Course and other health lessons in the different organizations, such as civic clubs and Parent-Teachers Associations.

Many of the Auxiliaries make semi-annual reports to the State Secretary.

The Kentucky Auxiliary was well represented at the annual meeting of the National organization, which met in Detroit, with President-Elect, Mrs. E. B. Houston of Murray, Mrs. G. A. Hendon, Mrs. A. T. McCormack, National Recording Secretary of Louisville, and many others. At the annual meeting of the Woman's Auxiliary to the Southern Medical Association, held in Miami, Kentucky was represented by several members.

(Signed) MRS. J. W. SAMS,
Secretary.

REPORT OF THE CORRESPONDING SECRETARY

Anyone who has been corresponding secretary to the State Auxiliary may have an idea of the pleasure that has been mine during the past year's work.

Writing letters with the aid of the mimeograph to the Auxiliary members in all parts of the state concerning their work, and to receive replies is certainly calculated to give quite a thrill.

I have given prompt attention to the answering of questions and have tried to send suitable words of encouragement to struggling county organizations.

Some have banded together for study and have requested the study course on Medical Laws which I have sent them with a few suggestions as to management thereof.

Report for years 1929-1930:

Letters sent — 200.
Study Courses mailed — 2.
Executive Board meetings attended — 3.

Respectfully submitted,
ALICE H. FREEMAN.
Mrs. John K. Freeman, Cor. Sec'y.

TREASURER'S REPORT

The Auditor's report for the fiscal year, July 1, 1929-July 1, 1930, will be found on Pages 449-450, Kentucky Medical Journal, September, 1930. This gives our income and outgo in detail until July 1, 1930. This report shows a savings account of $102.56 and a checking account with a balance of $24.01. It also shows a collection, this last year, of $121.06 for the Jane Todd Crawford Memorial Fund, making the total for this fund $320.84.

Following is a copy of Exhibit "A" of the Auditor's Report. Members are urged to study the complete report which covers Pages 449 and 450 in the September Journal.

RECEIPTS

Gross Dues received	$131.00	
Less American Medical Association Auxiliary dues	44.00	
Contribution from Jefferson County Auxiliary		20.00
Net State dues received		$87.00

Hygeia, American Medical Association, Commission on Subscriptions		4.25
Commission on ads in Kentucky Medical Journal		32.09
Total Net Receipts for 1929-30		$143.34

DISBURSEMENTS

Southern Medical Association Auxiliary dues	$ 25.00	
Printing	184.75	
Total Disbursements		$209.75
Loss on 1929-30		66.41
Balance on hand Aug. 1, 1929, National Bank of Kentucky, 5th and Main Sts., Louisville		$190.42
Transferred to Saving Account	$100.00	
1929-30 Loss	66.41	166.41
Balance on hand National Bank of Kentucky, 4th and Chestnut Sts., Louisville, (Checking Account)		$ 24.01
Bank Balance in National Bank of Kentucky, 4th and Chestnut Sts., Louisville	$ 28.26	
Less Outstanding Voucher No. 5, C. T. Deering Co. (Printing)	4.25	
Balance agreeing with Treasurer's Report		$ 24.01

SAVINGS ACCOUNT

The Louisville Trust Co., Louisville	$100.00	
Interest to date	2.66	
	$102.66	
Tax charged by Bank	.10	102.56
Total Amount in Banks		$126.57

JANE TODD CRAWFORD MEMORIAL FUND

Amount collected to date	$311.78	
Interest to date	9.38	
	$321.16	
Less Government Tax	.32	
Balance, First National Bank		$320.84

Treasurer.

*Since July 1, 1930, our financial standing has been raised in the checking account, by the payment of belated membership dues, to $47.76. Likewise, the Jane Todd Crawford Fund has been increased to $371.24.

REPORT OF THE STATE HISTORIAN

Mrs. W. F. Boggess.

While the French Revolution was demanding of France more freedom, more personal liberty, —the new nation of America had already come to find that individual freedom and liberty must be tempered with justice, and the Supreme Court of the United States came into being, the same year of the French Revolution, (1789).

Two years later Kentucky was the first State west of the Alleghanies to be added to the Union. With such a heritage—"liberty and freedom tempered with justice," ought we not to be a great State?

It has been generally thought that Daniel Boone was the first white man to penetrate into this new territory, but the great honor is to be accorded to none other than a member of our own Medical profession, Dr. Thomas Walker of Virginia, who in 1750 came thru Cumberland Gap and followed what is now known as the Wilderness Trail as far as the Kentucky River. He made a second trip in 1758, at which time he penetrated as far as Dick's River.

While Dr. Walker was a practicing physician in Virginia, his expeditions into Kentucky were of an exploratory character only. Does it not seem, therefore, most appropriate that this State, first explored by a physician, should have developed a long story of medical leadership; and no State West of the Alleghanies is richer in its medical lore than our very own Kentucky. The first physician to practice in the State was Dr. George Hart from Maryland, who settled at Harrodsburg,—later he moved to Bardstown where he lived until his death.

Dr. Abell in his Presidential address delivered before the Kentucky State Medical Association at Frankfort, 1926, on "The Heritage of Kentucky Medicine," inspired all present with a desire to further commemorate the memory of Kentucky's outstanding pioneers in medicine; this at once, became our Auxiliary's special work; it is indeed a great undertaking, and to carry it on to a successful and finished ending will invoke the most careful, pains-taking and interesting study into the lives of those great pioneers, who have made the Medical History of Kentucky our treasured possession of today.

By the term, "pioneer," we mean not only the practitioners of the old school, but all the way down the Medical roster to any one who has contributed any new discovery to Medical Science in any of its varied departments.

Dr. Francis Polin of Springfield, did the first Cesarean Operation in the State; Dr. Wm. C. Dugan of Clark, Ky., performed the first operation for Appendicitis West of the Alleghanies; Dr. Ap Morgan Vance was the first in Kentucky to limit his work to Surgery, alone; and he made many pioneer contributions to its orthopedic department.

Our own Dr. J. N. McCormack performed the second Cesarean operation in the State and did the longest colon resection; up to that time, a resection of 22 inches.

There are so many other names I would like to mention but we must hurry on.

A young Minister had been invited to preach his trial sermon before a congregation that prided itself upon its culture, and erudition; so just before beginning his sermon the young Minister held up two fingers on his left hand, and as he finished his sermon he held up two fingers on his right hand: after the benediction was pronounced many of the congregation came forward to congratulate him and to tell him what a wonderful discourse he had given them:- but one of the elders lingered after the others were gone:—and taking the Minister by the hand, said: "That was a marveleous sermon that you gave us,—but there was one thing that I could not understand, please tell me why, before beginning your sermon you held up two fingers,—and when you had finished your sermon you held up two fingers, again". "Oh!" replied the young Minister, "they were just my quotation marks:" So will you kindly bear with me while I bring you some of the facts and figures quoted from our historical record for the past year?

When I began this work, your Historical Committee consisted of the Historian, the County President and the Executive Board of our Louisville Auxiliary; each one of us pledging to bring in so many life sketches, getting, if possible, some member of the immediate family to write those sketches; today your Historical Committee consists of the Historian and the Presidents of the County Auxiliaries.

Last year seven (7) Counties responded with the sketches of their pioneer doctor; this year four (4) more counties have responded; we now have twenty-two (22) counties enrolled, and eleven (11) of these are working upon its historical data:

One life-sketch, each, has come in from twelve (12) counties that have not yet joined the Auxiliary: They are as follows: Union, Fayette, Nelson, Muhlenburg, Henderson, Lincoln, Barren, Todd, Boyle, Knox, Boone, Kenton.

We have on record about 200 sketches finished.

It will take the collaboration of many State Historians and many County Presidents before our Reference Book on the pioneers in Kentucky Medicine will have reached its happy and finished ending.

I trust I have succeeded in imparting to you some of my great enthusiasm in our chosen work; let's all lend a helping hand, and remember that after all, genius is only the art of taking pains.

May this be our slogan for the coming year, "He who gives promptly gives twice as much." —(Poor Richard's Almanac.)

References:

For County Presidents' and Delegates' information. Where to secure data for histories.

I. Smith and Perkins History of Kentucky.
II. Practice of Medicine—Dr. Carter.
III. Collins' History of Kentucky.
IV. Ohio Falls Cities and Counties—Vol 1.
V. A Retrospect of Surgery in Kentucky—Irvin Abell, M. D.
VI. Pioneer Life in Kentucky—Daniel Drake, M. D.
VII. Some of the Medical Pioneers of Kentucky—J. N. McCormack.
VIII. Pioneer History of Barren County—Gorin.

REPORT OF COUNCILOR OF FIRST DISTRICT

Mrs. V. A. Stilley, Benton.

We are sorry not to be able to report every county organized, but feel very happy that we have some in First District who are working enthusiastically. We beg to submit the following report:

Number of Auxiliaries	5
Number of Auxiliaries having regular meetings	2
Number of visits by Councilor	[illegible]
Number of Auxiliaries contributing to the State Treasury	2
Number of Auxiliaries contributing to the Jane Todd Crawford Fund	3
(Amount contributed, contained in Treasurer's report.)	
Number of counties visited	7
Number of Talks made before Woman's Clubs, Missionary Societies, Mothers Clubs and Health Meetings	9

No records were kept of the personal visits to wives and mothers of physicians regarding organizing the Auxiliary. There were quite a number.

After reading this report, some counties represented at the meeting expressed a desire to organize their counties.

REPORT OF COUNCILOR OF THIRD DISTRICT

Mrs. H. M. Meredith, Scottsville.

It gives me great pleasure to report The Woman's Auxiliary to the Warren County Medical Society organized November 6th, 1929.

Mrs. John H. Blackburn, entertained the wives of the members of the Warren County Medical Society with a tea Wednesday afternoon, November 6th, at her home on East Main Street, Bowling Green.

At this tea a Woman's Auxiliary to the Warren County Medical Society was organized and the following officers were elected.

President—Mrs. John H. Blackburn.

First Vice President—Mrs. W. C. Simmons, Smiths Grove.

Second Vice President—Mrs. Fred Reardon.

Secretary—Mrs. Hoy Newman.

Corresponding Secretary—Mrs. Arthur Donnelly.

Treasurer—Mrs. W. C. Strother.

Meetings to be held in the homes of the members.

I visited some counties and tried to encourage organization. Some report no active Medical Society. I have written several letters, received hearty response to most of them. I know many of these women, personally, and feel sure it will only take time for them to perfect their organization.

My great aim has been to get each county organized in the District and to organize a Third District Auxiliary to the Third District Medical Society, which includes: Allen, Barren, Butler, Christian, Cumberland, Logan, Metcalfe, Monroe, Simpson, Todd, Warren, and Edmonson.

REPORT OF WOMAN'S AUXILIARY CALLOWAY COUNTY MEDICAL ASSOCIATION

Mrs. J. A. Outland, Delegate.

The Calloway County Auxiliary was organized in 1929 with eighteen (18) members. Since organization we have continued to meet quarterly. We have very interesting meetings with reasonable attendance. We take dinner at the Hotel with the County Medical Society after which our meetings are held. We are now studying the Kentucky Health Laws.

We are making an effort to secure life histories of the doctors of our county. We have sent to our State Treasurer five dollars ($5.00) for the Jane Todd Crawford Memorial Fund. A few subscriptions have been secured for Hygeia.

REPORT OF THE CAMPBELL-KENTON COUNTY AUXILIARY

Pauline C. Haley, Delegate.

Although the Woman's Auxiliary to the Campbell-Kenton County Medical Society is young and few in number a real enthusiasm is manifested at its meetings.

We have been organized since January. Our organization meeting was held the latter part of the month with an initial membership of about 15 members. At this meeting we were honored with the presence of Dr. A. T. McCormack, Dr. P. E. Blackerby, and our President, Mrs. Blackerby. Our February meeting was a real "Get down-to-business-quick meeting." Committees were appointed and several new members were obtained. In order to try to obtain more new members and keep up interest, it was decided to meet at the same place and same time as the Campbell-Kenton County Medical Society. At this meeting we began the study of National and State Health Laws.

A scrap book was obtained and is being kept by the historical Committee.

Our March and April meetings were a continuation of health study. Again we received several new members.

In May, the Medical Society entertained the Auxiliary with a dinner. At this meeting with the addition of three new members, our membership was increased to 22.

The Auxiliary and Medical Societies were entertained in June with a dinner and picnic at the home of Dr. and Mrs. B. K. Menefee, about 120 being present.

No meetings were held in July and August.

Our first meeting of the Fall was a dinner meeting, and at this time we acquainted ourselves with the Jane Todd Crawford memorial, as given by the brief sketch of her life sent out by the State Committee.

Mimeographed copies of this sketch were made and distributed among our members and $10.00 was given to this fund. Two more new members were added and we now boast of a membership of 24.

In our community, Public Health and Health Instruction is well taken care of by the Board of Health, Parent Teacher Association and allied societies, so that we have not as yet found where we would fit in best in the health programs, but our enthusiasm and prospects seem very bright for the coming year.

REPORT OF THE JEFFERSON COUNTY AUXILIARY

Mrs. Hugh N. Leavell, Delegate.

The Jefferson County Auxiliary has 133 paid up members, Mrs. J. K. Freeman is President. At a recent board meeting it was decided to continue the lines of work in which we were already interested, adding as a venture monthly meetings of the sewing units and study groups. The entire auxiliary meets four times a year; these are luncheon meetings. We have lunch, during which there are addresses or music and after the lunch a business meeting follows.

Last year we gave a successful card party, which helped out our depleted treasury. We also gave one or two teas and acted as host to the State Medical Auxiliary when it met in Louisville last October.

Our activities were as follows:

1—A study class on Medical and Health Laws.

2—A flower committee, of which Mrs. George A. Hendon was our capable Chairman; This committee meets the second Monday in the month and takes flowers, which it has collected, to the hospital, old ladies home, and other places where flowers are a treat, indeed.

3—Our Hospital Committee on Holiday celebrations, functions at Christmas, Easter, and other occasions, by decorating a ward in the City Hospital and giving presents and ice cream to the sick therein.

4—Our representative on the Mayor's Committee of the City Hospital attended meetings regularly, inspected the hospital, reported needs and decorated a ward at the hospital on Christmas and Easter, with the assistance of a group of young people whose interest she had enlisted. Potted flowers and ice cream were given all patients in the ward.

5—The Historical section was busy collecting the lives of doctors, under Mrs. Boggess' enthusiastic leadership.

6—We contribute to the Jane Todd Crawford Memorial Fund.

7—There has been an increasing good fellowship in our Auxiliary, each meeting finds the members in closer harmony and we have all become not only co-workers but excellent friends.

One of the new projects for the coming year is the sewing unit which is to meet monthly at the homes of the members.

Nothing has ever come into my life as the result of any work I have done outside of my home, that I value so highly as the many friendships I have made as the result of becoming an active member of the Woman's Auxiliary to the Jefferson County Medical Society.

REPORT OF THE MARSHALL COUNTY AUXILIARY

Mrs. V. A. Stilley, Delegate.

Marshall County regrets being unable to make a more impressive report, but beg of the State Organization to have faith in us and not become discouraged, feeling that our dormancy is due to lack of interest.

We are not discouraged, but feel that the causes of the failure to hold meetings have been due to circumstances over which we have had no control. Our roads have been impassable most of the year, for one thing.

We have paid our dues and lost no opportunity of aiding the profession in health and sanitary measures. With weather and road conditions improved, we think that this year our Auxiliary may be able to function properly under the guidance of our President, Mrs. L. L. Washburn.

REPORT OF THE PERRY COUNTY AUXILIARY

Mrs. J. P. Boggs, President.

As President of the Woman's Auxiliary to the Perry County Medical Society, I wish to submit the following report:

In March our auxiliary entertained with a St. Patrick's Day banquet, honoring our husbands.

Our Jane Crawford Fund pledged thirty dollars, which was fulfilled with fifty cents extra.

These were the collections local organizations turned into our society:

Perry County Medical Auxiliary....	$5.00
Business and Professional Woman's Club	$5.00
Hazard Parent-Teachers Association	$5.00
Lothair Parent-Teachers Association	$1.00
Allais Parent-Teachers Association	$1.00
White Shrine	$3.00
Eastern Star	$3.00
Baptist Church Auxiliary	$2.00
Methodist Church Auxiliary	$2.00
Presbyterian Church Auxiliary	$2.00
Christian Church Auxiliary	$1.50

Hygeia subscriptions came along splendidly.

The following officers were elected for the coming year.

President—Mrs. G. B. Wheeler.

First Vice President—Mrs. R. L. Collins.

Second Vice President—Mrs. G. M. Adams.

Secretary-Treasurer—Mrs. G. E. Boulous, who has since resigned

My year closed with twenty-five members.

Appended is a report by the Secretary.

Perry County Secretary's Report.

By Mrs. M. M. Gingles

The Perry County Woman's Auxiliary meets regularly on the first Thursday afternoon in each month. During the winter months the meetings are held at some central point in Hazard.

The program usually consists of a paper on some subject pertaining to general health or a problem of disease by one of the members. The doctors of the county are kindly cooperating with us and at each meeting some one of them takes the time and trouble to prepare a paper or talk on a subject within the scope of our interest and understanding. If, as sometimes happens, he finds it impossible at the last minute to attend, some of our own members with musical or artistic talents give freely and willingly of their ability to entertain and thus fill in the gaps and otherwise enliven our programs.

During the summer months we found it added interest and kept up our attendance to meet at the homes of some of the members who live in the coal camps and who, because of bad roads, find it inconvenient and sometimes impossible to attend the winter meetings in Hazard.

In January and June a joint banquet is enjoyed by the County Medical Society and the Auxiliary.

REPORT OF THE WARREN COUNTY AUXILIARY

Mrs. Hoy Newman, Secretary.

The Woman's Auxiliary to the Warren County Medical Society, was organized November 6, 1929, with an enrollment of 20 members.

Meetings have been held quarterly with an average attendance of fourteen to eighteen members.

Excellent cooperation and interest have been shown during our short period of organization under the leadership of Mrs. John H. Blackburn, our President.

HISTORY OF THE A. M. A. AUXILIARY.

By Mrs. G. A. Hendon.

The Woman's Auxiliary to the American Medical Association was organized in St. Louis, May 16th, 1922.

Mrs. S. C. Red, retiring President of the Woman's Auxiliary to the Texas State Medical Association presented through Dr. E. H. Carey of Dallas, a resolution from the Texas Auxiliary to the House of Delegates of the American Medical Association, asking that a National Auxiliary be formed. The resolution, as introduced by Mrs. Red, was as follows:

The Woman's Auxiliary of the State Medical Association of Texas respectfully requests the approval of the American Medical Association of a movement to organize a Woman's Auxiliary to the A. M. A. the object of which shall be, "To extend the aims of the medical profession through the wives of doctors to the various women's organizations which look to the advancement in health and education, to assist in entertainment at all Medical conventions, to promote acquaintanceship among doctors' families so that closer fellowship may exist."

After an unanimous endorsement by the House of Delegates, temporary organization was affected at a meeting held in the Statler Hotel on the morning of May 26th, 1922, at which doctor's wives were present representing nine states, Mrs. S. C. Red of Houston, Texas, was elected President.

Immediately following this meeting letters were sent by Mrs. Red to the President of each state Medical Association in the United States, asking that a leading doctor's wife be appointed to organize an auxiliary in that State. Many interesting answers were received, some for and some against. It was reported that South Dakota had enjoyed the activities of an Auxiliary since 1914, that Maine had approved such an organization in 1918. Montana had started an Auxiliary in 1920. The beginning of our organization was the Dallas County Auxiliary, organzed at Dallas, Texas, in May, 1917, by Mrs. John O. McReynolds. The Texas Auxiliary was organized in 1918, Mrs. E. H. Carey of Dallas serving as President for the first two years.

After the St. Louis meeting, the first State to organize was Colorado.

The first annual meeting of the Woman's Auxiliary of the American Medical Association was held in San Francisco, June 1923. The constitution was adopted and the following states were represented: Texas, Colorado, South Carolina, Missouri, Utah, California, Alabama, Virginia, Minnesota and Montana. Mrs. S. C. Red was reelected President and Mrs. J. Allison Hodges, of Richmond, Va., President-elect.

The second annual meeting was held in Chicago at the Edgewater Beach Hotel, June 9th, 1924, at which Mrs. Red was reelected President. On account of illness Mrs. J. Allison Hodges was absent. Mrs. Seale Harris of Birmingham, Alabama, was made President-elect.

The next annual meeting was held in Atlantic City, May 28th, 1925. The President, Mrs. Red, being absent on a world cruise, the first Vice-president, Mrs. F. P. Gengenbach, presided.

At this meeting dues for Kentucky were first paid, which was a voluntary contribution from the floor at the general session by Mrs. J. N. McCormack. Also at this meeting Kentucky was given her first national officer when Mrs. Irvin Abell was elected Treasurer, Mrs. Abell serving through the formative years, 1925 to 1929. Mrs. Seale Harris was installed as President and Mrs. F. P. Gengenbach made president-elect.

The fourth annual meeting was held in Dallas, Texas, April 19 to 23, 1926. Mrs. Seale Harris presiding. Mrs. F. P. Gengenbach, of Denver was installed as President and Mrs. John O McReynolds of Dallas, Texas, President-elect.

The first publication of the Woman's Auxiliary to the American Medical Association was the report of Corresponding Secretary, Mrs. Allan H. Bunce of Atlanta, Georgia, for the year 1925-26, presented to the members at Dallas.

The next annual meeting, with Mrs. F. P. Gengenbach in the chair, was held in Washington, D. C., May 16-20, 1927. Mrs. John O. McReynolds was installed as President after the general sessions and Mrs. Allan H Bunce, Atlanta, Georgia, President-elect.

The sixth annual meeting of the Woman's Auxiliary to the American Medical Association was held in Minneapolis, Minn., June 12-15, 1928. Mrs. John O. McReynolds presiding. Mrs. Allan H. Bunce of Atlanta, Georgia was installed as President and Mrs. George H. Hoxie, Kansas City, Mo., President-elect

At this meeting Mrs. A. T. McCormack was made chairman of organization thus giving Kentucky two National officers.

July 8th to 12th, 1929, the seventh annual meeting was held in Portland, Oregon. Mrs. Allan H. Bunce in the chair. Mrs. George H. Hoxie was installed as President and Mrs. J. Newton Hunsberger of Norristown, Pa., was elected to the office of President-elect. Mrs. A. T. McCormack was elected Recording Secretary.

DELEGATES REPORT OF THE DETROIT MEETING

The general business meeting of the eighth annual convention of the Woman's Auxiliary to the American Medical Association was called to order in the Roof Garden Tuller Hotel, Detroit, Michigan at 9:45 a. m., Tuesday, June 24, 1930, by the President, Mrs. George H. Hoxie.

Invocation was offered by Rev. John W. Hoag of the Woodward Avenue Baptist Church. Address of welcome by Mrs. Elmer L. Whitney, Detroit. Response by Mrs. John O. McReynolds, past President of Dallas, Texas.

Committee reports followed:

Arrangements, Entertainment, Convention rules.

Minutes of seventh annual session were read, corrected and adopted.

Treasurer's report read and adopted.

After the President gave her report the following standing committee reports were received and filed: Finance, Printing, Organization, Press and Publicity, Hygeia, Public Relations, Legislation, Program Revisions, Historian.

At 1:30 a delightful luncheon was served in the Arabian Room of Tuller Hotel, each table being provided with two hostesses. Dr. Mayo was the principal speaker.

This was followed by a Health Pageant and Tea at the Detroit Art Museum. Other social features consisted of teas, boat rides, sight seeing trips and theatre parties.

The second session of the general meeting was held in the Roof Garden, Tuller Hotel, Detroit, at 9:30 A. M. June 25th, Mrs. Hoxie in the chair.

The President announced an experiment in State reports whereby it was hoped that the high points of achievement undertaken in like projects by several states during the current year would be illustrated by reports of outstanding examples of that work done in one of these states. This to be followed by short snappy briefs from each of the states, emphasizing the type of procedure and its results.

The three States mentioned as doing outstanding health work for the year were Kentucky, Pennsylvania and Arkansas. Mrs. A. T. McCormack, upon request, explained the study course in Medical and Health Laws of the State and the U. S. Public Health Service, copies of which were distributed to each member of the State Auxiliary and 200 other interested persons. This course was published in the Club Woman, the official organ of the State Federation of Woman's Clubs. More than 50 requests were made at the State Convention for this study course, several of the members stating they hoped to start a similar project in their own State Auxiliary for the coming year.

Arkansas gave a report on Student Loan Fund, which is now assisting six students through Medical School.

Pennsylvania reported County Health work under direct guidance of State Health Department, emphasizing among other things Periodic Health Examinations and Clean Water Supplies.

Iowa reported examinations undertaken in cooperation with Iowa State Federation of Women's Clubs.

Missouri reported Blue Ribbon Baby Campaign for children 1 to 4 years, and that the 6 to 9 point children had netted amazing results in healthier children and better school attendance. Missouri also reported that study envelopes on physical defects had been placed with 800 P. T. Associations.

From County Auxiliaries two interesting reports were given, one from Missouri reported a health education program promoted in the Public Schools by the employment of a Public Health Nurse trained in educational methods, to work in th rural districts teaching the teachers how to teach health. To support this work and to promote the circulation of Hygeia in the schools, the Auxiliary raised money by a theatre benefit and Saturday morning movies for the children.

From Mississippi one County Auxiliary began its study work with a course on Normal Mind by Burnham, followed by a series of Health lesson which were prepared by the State President.

Suggestions of importance to County Auxiliaries.

1. Three lines of work to take up—Social, Benevolent and Health Education. If purely social meetings will not be a success.

2. Self-educations means are at hand. Get the information and pass it on to someone else.

3. Have a doctor's wife on every P. T. A. Group.

4. At State meeting review work of the year and base next year's work on that.

At the close of Business Session. Mrs. J. Newton Hunsberger was installed as President and Mrs. A. B. Glothlan of St. Joseph, Mo., made President elect.

There were present at this meeting

85	Delegates.
20	Alternates.
195	Visitors.
113	Guests.
413	

This was a most delightful meeting despite the very hot weather and I am pleased to have had the honor of being your delegate.

The resolutions adopted at ths meeting are appended.

RESOLUTIONS

1. RESOLVED that all State Treasurers be instructed to pay their national dues on the last day of the fiscal year of their respective State Auxiliaries.

2. RESOLVED that in future new State Auxiliaries pay an initiation fee of $5.00 in order to obtain representation at their first natonal conventon, thereafter paying full dues at the close of their fiscal years, as heretofore provided.

3. WHEREAS, the study envelopes have been enthusiastically commended by the Advisory Council of the American Medical Association and whereas those State Auxiliaries which have used them have found them of great value, be it resolved that their use be continued and that all State and County Auxiliaries be urged to appoint Study Program Chairmen, and that these chairmen get in touch immediately with all Presidents and Presidents-Elect of State and County Auxiliaries in order to secure the full advantage of their use as program material.

4. BE IT RESOLVED that the Hygeia Com-

mittee be instructed to leave to the discretion of local Auxiliaries the advisability of soliciting indivdual subscriptions, but that we continue to push Hygeia as an instrument of health education by realizing funds from benefit entertainments or otherwise and by applying these funds to the purchase of subscriptions to be presented to teachers, libraries, legislators and other groups; and that we continue to acquaint other women's organizations, leaders of youth, superintendents of schools, etc. with the magazine.

5. WHEREAS, the Auxiliary Primer issued by the Medical Society of the State of New Jersey is the most comprehensive presentation of the aims and objectives of this organization containing as well quotations from eminent members of both the Medical Society and the Woman's Auxiliary regarding the need for a Woman's organization, be it resolved that the wide use and distribution of the Primer be strongly recommended throughout our entire membership.

6. WHEREAS, Parent-Teacher Associations, Federated Clubs, the League of Women Voters and the Auxiliary to the American Legion and other similar organizations are influential in their various civic and educational capacities, be it resolved that the Auxiliary to the American Medical Association urge upon its component state auxiliaries the advisability of participation through individual membership in the various activities of the aforementioned organizations with a special view (1) to the promotion of their health programs and (2) to cooperation in the public health projects of their Boards of Health.

7. WHEREAS, the annual meeting of the Woman's Auxiliary to the American Medical Association is always a great inspiration and stimulation to those in attendence, be it resolved that the component State Auxiliaries be urged to make possible the attendence of their Presidents or Presidents-Elect by payment of all or part of their expenses.

HISTORY OF THE AUXILIARY TO THE SOUTHERN MEDICAL ASSOCIATION

By Mrs. H. M. Meredith

The Woman's Auxiliary of the Southern Medical Associaton was organized November 25, 1924 in New Orleans, Louisiana.

The temporary officers were:

Chairman, Mrs. Seale Harris, Birmingham, Ala.

Secretary, Mrs. D. J. Williams, Gulfport, Miss.

Dr. Stewart Roberts, of Atlanta, Georgia and Mrs. S. C. Red, Houston, Texas, explained the purpose and methods of the organization in the several states, and the affiliation with the American Medical Auxiliary.

Reports were made from five states.

Texas, organized 1918

Kentucky, organized 1923

Georgia, organized 1924

Mississippi, organized 1924

Missouri, organized 1924.

The first officers elected were:

President, Mrs. E. H. Cary, Dallas, Texas.

Vice-President, Mrs. D. J. Williams, Gulfport, Miss.

Recording Secretary, Mrs. A. T. McCormack, Louisville, Ky.

Corresponding Secretary, Mrs. A. I. Folsom, Dallas, Texas.

Parliamentarian, Mrs. W. W. Crawford, Hattiesburg, Miss.

The next annual meeting was held November 12th, 1925, in Dallas, Texas.

Reports were made from six states: Arkansas, Georgia, Kentucky, Mississippi, Missouri, Texas, and from Oklahoma City, Oklahoma.

The Corresponding Secretary announced that organizations had been formed in the District of Columbia, North Carolina, Alabama, Virginia, West Virginia, but no delegates reported from these states.

The officers elected for the ensuing year were:

President, Mrs. D. J. Williams, Gulfport, Miss.

President-Elect, Mrs. Stewart Roberts, Atlanta, Ga.

Vice-President, Mrs. M. Y. Dabney, Birmingham, Ala.

Secretary-Treasurer, Mrs. A. T. McCormack, Louisville Ky.

Parliamentarian, Mrs. W. W. Crawford, Hattiesburg, Miss.

Many parties, luncheons, dinners, teas and drives were given for the visitors. Dallas doctors and their wives seemed to vie with each other in devising delightful hospitality.

The arrangements for the care and entertainment of the guests were most admirably made and carried through by the Dallas hostesses, who were ably assisted by every doctor's wife in Texas. In fact, one of the most notable characteristics of the hospitality extended was the whole hearted, personal responsibility which every Texas doctor's wife assumed for the pleasure and comfort of the visitors while in Dallas. One hardly knew whether her hostess belonged in Dallas, San Antonia, Fort Worth or some small country town. They worked and played together in such harmony and unanimity.

The next annual meeting met Wednesday, November 17th, 1926, 10:00 A. M. at the Acadamy of Medicine, Atlanta, Georgia.

The meeting was well attended and delegates from a number of states reported the activities of the state and county auxiliaries for the preceding year. Minor changes in the constitution were adopted. Greater popularity of the Auxiliary everywhere was noted.

Thanks were expressed to the Fulton County Medical Society and Auxiliary for the delightful entertainment, the auto rides, luncheon, tea, musical, banquet and other courtesies tendered the visiting members.

The address of Mrs. D. J. Williams, Gulfport, Miss., President of the Auxiliary, stressed the aims of the organization which arose from the common devotion of the women to the lifework of their husbands, and the possibility of its tremendous development along the lines of preventive medicine as well as in the promulgation of friendly relations among physicians.

The following officers were elected for 1927:

President, Mrs. Stewart Roberts, Atlanta, Ga.

President-Elect, Mrs. A. T. McCormack, Louisville, Ky.

1st Vice-President, Mrs. M. Y. Dabney, Birmingham, Ala.

2nd Vice-President, Mrs. W. P. McDowell, Norfork, Va.

Recording Secretary, Mrs. O. M. Marchman, Dallas, Texas.

Corresponding Secretary, Mrs. John B. Fitts, Atlanta, Ga.

Treasurer, Mrs. Ernest Sullivan, Oklahoma City, Okla.

Parliamentarian, Mrs. H. M. Stucky, Sumter. S. C.

The meeting adjournd to reconvene next November in Memphis, Tenn.

Number of women registered, 445.

The next annual meeting met Wednesday, Nov. 16th, 1927, 10:00 A. M., in the Ballroom of the Hotel Peabody, Memphis, Tenn.

In the absence of the President, Mrs. Stewart R. Roberts, who was prevented from attending the meeting on account of illness, and of the Vice-Presidents, the Executive Board elected Mrs. O. M. Marchman, Dallas, Texas to preside over this meeting, which she did most graciously. Mrs. John B. Fitts, Corresponding Secretary, acted as Recording Secretary.

In addition to the regular business and report of officers and delegates from several states, always most interesting, two inspiring addresses were made. One by Dr. J. Shelton Horsley, Richmond, Virginia, President of the Southern Medical Association, and the other by Dr. William D. Haggard, Nashville, Tenn., past President of the American Medical Association.

The appreciation of the visiting ladies was expressed to the local medical profession and the local ladies for their delightful entertainment, for the luncheon, and art exhibit, musical, and reception, auto ride, and tea, and for other courtesies extended the visiting ladies.

The following officers were elected for the next year:

President, Mrs. A. T. McCormack, Louisville, Ky.

President-Elect, Mrs. C. W. Garrison, Little Rock, Ark.

1st Vice-President, Mrs. O. M. Marchman, Dallas, Texas.

2nd Vice-President, Mrs. M. H. Bell, Vicksburg, Miss.

Recording Secretary, Mrs. J. W. Brawner, Atlanta, Ga.

Corresponding Secretary, Mrs. J. W. Sams, Crestwood, Ky.

Treasurer, Mrs. W. R. West, Oklahoma City, Oklahoma.

Parliamentarian, Mrs. B. F. Turner, Memphis, Tenn.

Number of ladies registered, 438.

The meeting adjourned until the next annual meeting of the Southern Medical Association, which will be held in Ashevile, N. C. November, 1928.

The Fifth Annual Meeting met Tuesday, November 13th, 1928, 9:00 A. M. in the Lounge Room of the Battery Park Hotel, Asheville, North Carolina, and was called to order by the President, Mrs. A. T. McCormack, Louisville, Ky., who presided.

Mrs. H. H. Harrison, Ashevile, N. C., delivered the invocation, and Mrs. O. F. Eckel, Asheville, N. C., wife of the President of the Buncombe County Medical Society, and Mrs. A. B. Holmes, Fairmont, N. C., President of the Woman's Auxiliary of North Carolina delivered addresses of welcome, which were responded to by Mrs. Southgate Leigh, Norfork, Va.

A roll call of states showed that a majority of the states comprising the Southern Medical Association were represented with a total registration of 365 women present.

A beautiful walnut gavel, a gift of Mrs. S. A. Collom, Texarkana, Texas, was presented to the Auxiliary.

Mrs. J. N. Brawner, Atlanta, Ga., Recording Secretary, read minutes of previous meetings, which were approved.

Mrs. A. T. McCormack, Louisville, Ky., read her President's address entited "Jane Todd Crawford Pioneer Heroine of Surgery."

The address, an outstanding feature of the meeting, was a brief sketch of Jane Todd Crawford, a sturdy, courageous woman, unknown in her day, who permitted the removal of an ovarian tumor without the aid of anesthetic, which had not then been discovered, by Ephriam McDowell, a country doctor of Kentucky, late in 1809, this being the first ovariotomy known in medical history. The address closed with the suggestion that the Auxiliaries of the South start a fund for the establishment of a Jane Todd Crawford Memorial. The fund to date is $371.24.

Mrs. W H. Nardin Anderson, South Carolina, Chairman Scrap Book Committee, reported that the prize in the scrap book contest was awarded to the Kentucky exhibit.

Mrs. Allen H. Bunce, Atlanta, Ga., President of the Woman's Auxiliary of the American Medical Association, was introduced and brought greetings from her organization to the Woman's Auxiliary of the Southern Medical Association. Mrs. Bunce stressed the need of greater interest and greater activity in Auxiliary affairs, offering many inspiring suggestions for county and state work.

The Courtesy Committee, Mrs. J. W. Sams, Crestwood, Ky., Chairman, reported the resolutions:

We, the members of the Woman's Auxiliary of the Southern Medical Association, want to convey to the doctors' wives of Asheville, our appreciation for the generous hospitality which they have extended to us during our stay in their city. We have heard of the wonderful "Land of the Sky" and since this visit, we realize that the people who have built this city, are as gracious and lovely as the scenery is beautiful.

Number of women registered, 379.

The Nominating Committee, Mrs. Allen H. Bunce, Atlanta, Ga., Chairman, reported the following nominations, these nominees being unanimously elected.

President, Mrs. C. W. Garrison, Little Rock, Ark.

President-Elect, Mrs. J. N. Brawner, Atlanta, Ga.

1st Vice-President, Mrs. A. B. Holmes, Fairmont, N. C.

2nd Vice-President, Mrs. W. H. Nardin, Anderson, S. C.

Recording Secretary, Mrs. J. W. Sams, Crestwood, Ky.

Corresponding Secretary, Mrs. D. A. Rhinehart, Little Rock, Ark.

Treasurer, Mrs. Edward Clay Mitchell, Memphis, Tenn.

Parliamentarian, Mrs. Southgate Leigh, Norfolk, Va.

Dr. William R. Bathurst, Little Rock, Ark., President of the Southern Medical Association, was introduced and extended greetings of the Association to the Auxiliary.

The meeting adjourned until the next annual meeting of the Southern Medical Association. which will be held in Miami, Florida, November, 1929.

REPORT OF DELEGATE TO 1929 MEETING

The Sixth Annual meeting was held Wednesday, November 20th, 1929 at 9:00 A. M. on the Mezzanine Floor of the Columbus Hotel, Miami, Fla., and was called to order by Mrs. Arthur L. Waters, Miami Beach, Florida, President of the Woman's Auxiliary of the Dade County Medical Association and General Chairman for Ladies' Entertainment.

Rev. Everett Smith, Miami, delivered the invocation.

Mrs. C. E. Dunaway, Miami, delivered the address of welcome in behalf of the Woman's Auxiliary of the Dade County Medical Association.

Mrs. M. A. Lischkoff, Pensacola, Fla., President Woman's Auxiliary of the Florida State Medical Association, brought greetings from the State Auxiliary.

Mrs. A. T. McCormack, Louisville, Ky., responded to the addresses of welcome in behalf of the Woman's Auxiliary of the Southern Medical Association.

Mrs. C. W. Garrison, Little Rock, Ark., President of the Woman's Auxiliary of the Southern Medical Association, was introduced and delivered her President's address.

The Recording Secretary, Mr. J. W. Sams, Crestwood, Ky., read the minutes of the last annual meeting in Asheville, N. C., which was approved.

The President, Mrs. C. W. Garrison, introduced Mr. C. P. Loranz, Secretary-Manager of the Southern Medical Association, who in turn introduced Dr. Paul H. Ringer, of Asheville, N. C., First Vice-President of the Southern Medical Association; Dr. William Gerry Morgan, President-Elect of the Amercan Medical Association, and Dr. Francisco M. Fernandez, Secretary of Public Health and Charities Republic of Cuba (Minister of Public Health), President Pan-American Medical Association and President Medical Club of Cuba, Havana, Cuba.

Dr. Ringer brought greetings from the Southern Medical Association in behalf of its President, Dr. Thomas W. Moore, Huntington, West Virginia. Dr. William Gerry Morgan stressed the importance of the two organizations cooperating. Dr. Fernandez expressed his pleasure at attending the Auxiliary meeting and brought greetings from the wives of physicians of Cuba, saying that Mrs. Fernandez was not able to accompany him because of some important welfare work in which she was then engaged. He gave to all going to Cuba, from Miami meeting, a most cordial invitation to attend his luncheon at Triscornia on Sunday. Dr. Ringer, Dr. Morgan and Dr. Fernandez attended and spoke to the Auxiliary upon the invitation of its President, Mrs. C. W. Garrison.

Reports were received from the following officers and chairman of committees

President, Mrs. C. W. Garrison, Little Rock, Ark.

President-Elect and Chairman of the Publicity Committee, Mrs. J. N. Brawner, Atlanta, Ga.

Recording Secretary, Mrs. J. W. Sams, Crestwood, Ky.

Corresponding Secretary, Mrs. D. A. Rhinehart, Little Rock, Ark.

Treasurer, Mrs. Edward Clay Mitchell, Memphis, Tenn.

Historian and Scrap Book Chairman, Mrs. A. T. McCormack, Louisville, Ky.

Organization, Mrs. S. A. Coliom, Texarkana, Texas.

Mrs. Collom reported the state of Louisiana organized with Mrs. Oscar Dowling, New Orleans, State President.

Mrs. Southgate Leigh, Parliamentarian, recommended changes in Articles 3, 6, 10 of the Constitution and By-Laws, which changes were adopted.

Reports were received from state auxiliaries by delegates.

Mrs. E. H. Cary, Dallas, Texas, Chairman of the Nominating Committee, reported the following nominations for officers of the Auxiliary, these nominees being unanimously elected by vote of the Auxiliary.

President, Mrs. J. N. Brawner, Atlanta, Ga.

President-Elect, Mrs. S. A. Collom, Texarkana, Texas.

1st V.-President, Mrs. Arthur L. Waters, Miami Beach, Fla.

2nd V-President, Mrs. Edward Clay Mitchell, Memphis, Tenn.

Rec. Secretary, Mrs. H. W. E. Walther, New Orleans, La.

Cor. Secretary, Mrs. C. W. Roberts, Atlanta, Ga.

Treasurer, Mrs. W. W. Crawford, Hattiesburg, Miss.

Historian, Mrs. A. T. McCormack, Louisville, Ky.

Parliamentarian, Mrs. Irvin Abell, Louisville, Ky.

Number women registered 572.

It is indeed a privilege and a pleasure to attend the meetings of the Auxiliary to the Southern Medical Association. There is an inspiration one gets in a meeting of this kind that makes life seem all too short to accomplish the many things there are to be done. May we resolve, even as the Knights of Old, to buckle on our armor and go forth to do better and greater work in the Woman's Auxiliary.

I sincerely hope that at the next meeting in Louisville, November 11-14, 1930, that every one of us who are wives of Kentucky Doctors may have the privilege and good fortune to attend.

REPORT OF THE COMMITTEE ON PUBLIC INSTRUCTION.

At the 1929 Annual Meeting of the Woman's Auxiliary to the Kentucky State Medical Association, it was decided that, because of increased activity, the Editor should have the assistance of three members constituting a Committee on Publications. During the Executive Board Meeting, the Editor was re-appointed Chairman of the Jane Todd Crawford Memorial Committee with power to select other members to serve. Later, these two Committees were combined as the Committee on Public Instruction.

The Committee on Public Instruction is composed of a Central Group of nine members, living near each other and meeting frequently for conference, and all of the Presidents of the County Auxiliaries who serve as members-at-large.

The Central Group met for the consideration of all work coming under their jurisdiction but, according to their special interests, divided into three sub-committees—The Jane Todd Crawford Memorial; Press and Radio; Study Course in Medical and Health Law. The members of this Central Group and their sub-committees are as follows:

Mrs. P. E. Blackerby, Ex-Officio.

Mrs. L. W. Neblett, Mrs. C. W. Blake, Jane Todd Crawford Memorial.

Mrs. W. A. Onderdonk, Mrs. Oliver P. Miller, Mrs. John L. Jones, Press and Radio. (Later, Radio alone).

Mrs. Leon Solomon, Mrs. Emmett F. Horine, Mrs. J. Hunter Peak, Study Course in Medical and Health Laws.

Mrs. A. T. McCormack, Chairman.

The first meeting of the Central Group was held at the home of the Chairman on Monday, December 9, 1929, at 10:00 a. m. Six were present. The duties of this body were outlined. At once, the need for a correct, up-to-date list of the County officers was apparent and a request was sent to the State Secretary to supply this list with addresses. (The request was promptly honored by the Seiretary.)

News reports of the local County Auxiliaries can be secured only from the reports of the local officers. These are desired for publication in the Woman's Auxiliary columns of the Kentucky Medical Journal.

Plans for procedure in the development of the Jane Todd Crawford Memorial work were evolved. (See attached copy.) Among other things considered, six different short sketches on the story of Jane Todd Crawford, sent in by as many members—some of them from County Presidents—were read and selections made from them for a final brief, suitable for use by a speaker at club meetings or for publicity purposes. The Chairman was authorized to compile this brief and also to prepare a few sample forms of newspaper publicity and send copies of all this material to each County President. (See attached copy.)

The Second Meeting of the Central Group was held at 10:30 a. m., Monday, January 23, 1930, at the home of the Chairman. Eight members were present. Mrs. John L. Jones was elected Secretary. Reports on the progress of the Jane Todd Crawford project showed considerable interest and activity. The Chairman reported that Jane Todd Crawford had made her debut on the air. This was in the form of a radio talk over WHAS, given by Mrs. F. C. Dugan, a Jefferson County member, in commemoration of the 120th anniversary of the famous operation in Danville, December 13, 1809, when Jane Todd Crawford submitted to the first ovariotomy which was performed by that remarkable pioneer in surgery, Dr. Ephraim McDowell.

Further possible work in the Study Course in Medical and Health Laws was discussed. An article introducing the Study Envelopes, the National Study Course, sent in by Mrs. James Blake Hopkins, Minnesota Chairman of Publicity for the Woman's Auxiliary to the American Medical Association, was accepted for publication in full in the Woman's Auxiliary columns of the Journal.

The request from Mr. Leo Pelle, Director of WLAP, Louisville's newer radio station was read. Mr. Pelle, through the kindly offices of Mrs. Sidney J. Meyers, formerly associated with WLAP in a professional capacity, invited the Auxiliary to sponsor a ten minute program for mothers and home-makers, at 10:50 each day, except Sunday. Mr. Pelle had first, at Mrs. Meyers suggestion, invited the State Board of Health to give this program. Dr. McCormack unable to accept the invitation because of limited staff, had suggested the Woman's Auxiliary. After thoughtful discussion, it was decided that if our State Advisory Council approved, and if WLAP found it advisable, the Auxiliary would attempt a ten minute program for one day each week. The plan was to ask a physician, a member of the Jefferson County Medical Society, to make an eight minute speech, following a one minute introduction by some member of the Auxiliary who, also, would utilize the last remaining minute to "sign off" the program with an invitation to listeners, wishing further information on the physician's talk, to send their letters to the Secretary, who would then forward them to the speaker for a reply. In determining the subjects likely to be of most interest to mothers and homemakers at that particular season, it was decided to have the first series on communicable disease. It was also decided to ask the President of the Kentucky State Medical Association, Dr. Granville S. Hanes, to make the first speech and to ask the President of the State Auxiliary, Mrs. P. E. Blackerby, to introduce Dr. Hanes. Then, the next week, ask the State Medical Secretary, Dr. A. T. McCormack, to make the speech with the State Auxiliary Secretary, Mrs. J. W. Sams, to introduce him, following this with the Jefferson County Presidents, Medical Society and Auxiliary, and then, other members. The Chairman was authorized to secure the approval of the Advisory Council and the acceptance of the proposed plan of a weekly schedule from Mr. Pelle at WLAP, if possible. Further detail work on the radio programs was left to the Press and Radio Sub-Committee and the Chairman.

The Third Meeting of the Central Group was held at the home of the Chairman at 10:30 a. m., Monday, March 25, 1930. Five members were present. Reports of the Jane Todd Crawford Memorial project showed increasing interest. Extracts from several letters approving the project were read, among these, one from Greensburg, Mrs. Crawford's home town in Kentucky, expressing appreciation for the recognition accorded Mrs. Crawford, and of Greensburg, through the radio talk of Mrs. Dugan, December 13th. This letter included a request for more information concerning the Memorial plan and expressed the desire that the club women of Greensburg might share in contributing to this memorial. Many requests for this information have been received, not only from interested women but from the Minnesota Historical Society, Tennessee Department of Education, history students and others.

Reports on the radio programs were encouraging. The Advisory Council had readily approved the project and the first program was presented over WLAP at 10:50 a. m., Thursday, February 13, 1930 with Dr. Granville S. Hanes as the speaker and Mrs. P. E. Blackerby making the introduction and "signing off." The progress and success of this work will be reported in more detail by Mrs. Onderdonk, Chairman of the Sub-Committee on Press and radio.

Notes for the Woman's Auxiliary columns in the Journal were considered and left with the Sub-Committee on Press and Radio, for final action.

The Study Course in the Medical and Health Laws was discussed and letters read from Presidents of several Counties where the lessons were being studied in regular classes at Auxiliary meetings. The Chairman reported that she had received a request from the Editor of the Club Woman, the official magazine of the Kentucky State Federated Clubs, for permission to publish in full, the entire nine lessons of the Study Course in Medical and Health Laws. This permission was granted and the first three lessons were then on the press and appeared in the April number.

No further meetings of the Central Group have been held. The Sub-Committee on Press and Radio has met frequently and done most effective work. They have kept the weekly schedule religiously at WLAP, even during the intense heat and discomfort of the summer. Mrs. W. A. Onderdonk, Chairman, and Mrs. John L. Jones, Secretary, have given valiant, loyal, faithful service, even under the most extenuating circumstances. The members of the medical profession and those of the Auxiliary who were invited to take an active part in this educational work have responded graciously and effectively.

The financial panic of the last year has slowed up the work of soliciting funds for the Jane Todd Crawford Memorial, but we are continuing with our educational program so that our members will be fortified with the story when Good Times come our way again, as we are assured will happen, eventually, and the collections may then be increased. To date, the Treasurer reports a total of $28.00 collected this year from individuals and $73.00 from organizations of County Auxiliaries.

The Study Course in Medical and Health Laws received much favorable mention at the recent National meeting in Detroit and many requests have been received, at Detroit and by mail in Kentucky, for copies of these lessons. However, the supply was exhausted months ago and none are available except for a few of the last four lessons. Two requests included an offer to pay for the material but unfortunately, there was no complete set of the lessons on hand. The Committee will welcome suggestions on how to meet this situation.

Respectfully submitted,
JANE TEARE McCORMACK,
(Mrs. A. T. McCormack) Chairman

YEAR OF 1929-1930.

Program of Work For
The Committee on Public Instruction.

Work is educational for the: a. Members of the Auxiliary. b. Public in general, members of women's clubs in particular.

1. Keep the members informed of our work. General public, also.
    - (a) Providing news items and editorials for the Woman's Auxiliary columns in the Kentucky Medical Journal each month.
    - (b) Articles for Bulletins of the A. M. A. and S. M. A. Auxiliaries as required.
    - (c) Newspaper notices.
2. The Jane Todd Crawford Memorial.
    - (a) Development of the project.
    - (b) Material for speeches prepared for club use.
    - (c) Press notices.
3. The Study Course in Medical and Health Laws.
    - (a) Furtherance of the Study of Medical and Health Laws.
    - (b) Cooperation with the National Committee on Study Programs.
4. The Radio Programs.
    - (a) Cooperation with WLAP and the Medical Profession.
    - (b) Weekly ten-minute program over radio for mothers and homemakers.
    - (c) Detail of all clerical work for this program.
    - (d) Secure speakers from medical profession.
    - (e) Secure Auxiliary members as announcers.

PLAN OF WORK FOR DEVELOPMENT OF PROJECT OF THE JANE TODD CRAWFORD MEMORIAL COMMITTEE.

Objective.

1. Collection of historical data.
   Gather in all possible historical data concerning both Dr. McDowell and Jane Todd Crawford. (So little is known of the latter, particularly.)
2. Make these facts known to as many people as possible.
3. Make everybody familiar with the story of Jane Crawford and with the Memorial Fund, appealing for contributions from women, or, in the memory of women. These contributions should all be sent, together with the name and address of the donor, to our State Treasurer, Mrs. W. C. Dugan, Clark, Kentucky. Make all checks payable to the Jane Todd Crawford Memorial Fund.
4. Prepare material for short speeches and for press notices.

Procedure.

A. Develop a good sized committee including—

1. The President of each County Auxiliary. (There are about 26).
   These will work in our Counties and correspond with the State Chairman.
2. The Past Presidents of the State Auxiliary.
3. Six, or more, interested women in Louisville meeting regularly, once a month, or oftener, for concentrated work to compile material and make it ready for use throughout the State. Much of this material will be sent in from the County Presidents and their associates.

B. Each member write a brief statement on the Jane Todd Crawford story and the Memorial project. Selections can then be made from several of these to make up the Brief sent broadcast for publicity purposes.

C. County Auxiliaries, as organizations, send yearly contributions.

D. Individuals send contributions, regularly each year, or all at once in lump sum, if preferred.

E. Keep the project alive and before the club women constantly.

REPORT OF THE RADIO COMMITTEE

(A Sub-Committee of the Committee on Public Instruction).

By Mrs. W. A. Onderdonk.

Madam Chairman:

Our radio report is one of interested activity throughout the past nine months. And, as this is a yearly time of planning together and of evaluating our work, it gives me pleasure to report the steady growth of the development of our Radio Program. This accomplishment can be measured by dates that go back over a period of eight (8) months. Beginning with February 13th and on to October, the weekly schedule (enclosed) is interesting and reveals helpful and constructive work. Our thirty-three (33) speakers, introduced by thirty-three (33) Auxiliary members, have contributed constructive health talks to a considerable number of listeners and these contributions are still carrying-on, according to the letters we receive from our radio audience.

In co-operation with the medical profession, as represented by the Jefferson County Medical Society, our Radio Program is broadcast from Station WLAP. It is a weekly ten-minute program for Mothers and Home-Makers, which means, of course, a very simply worded health talk about practical matters concerning the every-day health needs of the ordinary family. Scientific papers are not suitable. The talks are given on Thursday mornings at ten minutes before eleven o'clock.

It does require quite a bit of telephoning and clerical work, on the part of the Committee, to secure the speakers and announcers and to make sure that they keep their appointments. Ready and gracious co-operation from the members of the Jefferson County Medical Society and from the Auxiliary has made the work a real joy. It is not irksome nor difficult, but a pleasure and most instructive.

As we look forward to the year ahead, it is with courage and confidence that we will be guided aright in our constant endeavors to build such health values into the minds, lives and habits of our community, that, motivated by the common purpose of our Doctors, Nurses and Health Officers,—the Health of our people will be a recognized fact.

"Knowledge is Power. Knowledge is protection." We want a community that is 100 per cent healthy. Proper health knowledge will yield that power and protection which is assured with perfect health. This perfect health for all people is the goal toward which the Physicians are constantly striving and, with them, their Woman's Auxiliary is co-operating with the Health Departments and other organizations in an attempt to better the health and welfare of our children through increased health knowledge of parents and would-be parents.

Since this experiment with the radio (for experiment it was, at first, on the part of both the Auxiliary and the Jefferson County Medical Society) has met with such enthusiastic approval and seems to be of actual and practical use that your committee would like to suggest the possibility of extending this work into the other Counties in which radio stations are located.

In the files of the Committee are copies of the thirty-three Radio Talks already given over WLAP. These are available for further use. Should local Auxiliaries desire any of these health talks as samples of Radio work, they may be secured by writing to the Secretary, Mrs. John L. Jones, 1911 Roanoke Street, Louisville.

The Radio Committee hopes the year will be, for the Woman's Auxiliary, one of vision and accomplishment, of local expansion and a clearer realization that, as we meet our individual problems wisely, so do we, as a Committee or as an organization, contribute our share to a more healthy world order.

Respectfully submitted,
THE RADIO COMMITTEE.
Mrs. W. A. Onderdonk, Chairman
Mrs. Oliver P. Miller Mrs. J. L. Jones

WLAP RADIO PROGRAMME FOR FIRST 9 MONTHS.

Feb. 13—Our Contribution to Kentucky—Dr. Granville S. Hanes, President, State Association. Introduced by Mrs. P. E. Blackerby, Pres. State Auxiliary.

Feb. 20.—Scarlet Fever—Dr. A. T. McCormack, Sec. State Medical Association. Introduced by Mrs. J. W. Sams, Recording Sec. State Auxiliary.

Feb. 27.—Communicable Diseases in Louisville Today—Dr. C. H. Harris, City Health Officer. Introduced by Mrs. John K. Freeman, Cor. Sec. State Auxiliary.

March 6.—Some Results of the So-Called Children's Diseases—Dr. E. F. Horine, Pres. Jeff. Co., Medical Society. Introduced by Mrs. D. A. Bates, Pres. Jeff. Co. Aux.

March 13.—Dr. Philip Barbour—Whooping Cough. Introduced by Mrs. George A. Hendon.

March 20.—Dr. James Bruce—Measles. Introduced by Mrs. C. G. Arnold.

March 27.—Meningitis—Dr. T. Cook Smith. Introduced by Mrs. Oliver P. Miller.

April 3.—Milk Borne Diseases—Dr. Vernon Robbins. Introduced by Mrs. W. F. Boggess.

April 10.—An Adequate Alkalie Reserve—Dr. W. E. Gardner, Councilor and member Advisory Council for Auxiliary. Introduced by Mrs. R. L. McCormack.

April 17.—Deformity of Children—Dr. John Trawick. Introduced by Mrs. J. Duffy Hancock.

April 24.—Tuberculosis—Dr. Oscar Miller (Called out of town. Suspended date for Dr. Miller). Don't Be a Diabetic—Dr. Virgil Simpson (Unable to keep appointment.) Introduction was to be made by Mrs. Arch Herzer. She was there and ready.

May 1.—Child Health Day—Dr. Granville S. Hanes. Introduced by Mrs. Philip Barbour.

May 8.—Don't Be A Diabetic—Dr. Virgil Simpson. Introduced by Mrs. W. C. Dugan.

May 15.—Kidney Disease Following Infectious Children's Diseases—Dr. J. Rowan Morrison. Introduced by Mrs. C. W. Jefferson.

May 22.—Medical Discoveries—Dr. George A. Hendon. Introduced by Mrs. J. W. Sams.

May 29—Hydrophobia—Dr. Fred Spiedel. Introduced by Mrs. John D. Trawick.

June 5.—Tuberculosis—Dr. Oscar Miller, Waverly Hills. Introduced by Mrs. J. Hunter Peak.

June 12—Typhoid Fever—Dr. John L. Jones. State Epidemiologist of State Board of Health. Introduced by Mrs. A. J. Kostner.

June 19—Preparing Children for Summer Camps—Dr. John D. Trawick. Introduced by Mrs. A. T. McCormack.

June 26.—Fourth of July Precautions—Dr. Guy Aud. Introduced by Mrs. W. A. Onderdonk.

July 3.—Baby's Second Summer—Dr. Frank Pritchett. Introduced by Mrs. C. W. Jefferson.

July 10—Camp Life For Boys—Mr. Thornton Wilcox, Executive Secretary, Boy Scouts. Introduced by Mrs. Wm. Emrich.

July 17.—Goitre—Dr. R. R. Elmore. Introduced by Mrs. T. K. Van Zandt.

July 24.—The Eye-Barometer of the Body—Dr. M. C. Baker. Introduced by Mrs. W. O. Green.

July 31—What Makes The Healthy Child?—Dr. E. E. Butler. Introduced by Mrs. E. Lee Heflin.

August 7.—What Does Your Baby Put in Its Mouth?—Dr. Curt H. Krieger. Introduced by Mrs. Wm. E. Fallis.

August 14.—Acute Respiratory Diseases—Dr. Wm. McCrocklin. Introduced by Mrs. Lee J. Ernstberger.

August 21.—Vaccination and Its Origin—Dr. John K. Freeman. Introduced by Mrs. J. Keller.

August 28.—Out of Babyhood Into Childhood—Dr. Juanita Jennings. Introduced by Mrs. W. A. Onderdonk.

September 4.—Preventive Medicine—Dr. Frank Stites. Introduced by Mrs. Harry A. Davidson.

September 11.—Knowledge is Protection—Dr. Carl Johnson. Introduced by Mrs. E. E. Butler.

September 18—Pre-School Posture—Dr. Harry Goldberg. Introduced by Mrs. A. C. Kolb.

September 25.—Lockjaw—Dr. S. C. Frankel. Introduced by Mrs. W. B. Troutman.

HYGEIA—THE HEALTH JOURNAL

By Mrs. R. N. Herbert, Chairman, National Hygeia Committee, Nashville, Tenn.

My first thought relative to this theme was why the doctors' wives should be interested in Hygeia; first, the concensus of opinion is that the average physician is so busy with the problems of health, and the tremendous responsibility of humanity, that he has little time for thought of other things. In his hours at home his mind is usually so absorbed in his work that he would naturally appreciate an intelligent and sympathetic discussion of his problems with his wife; consequently, it behooves us to educate ourselves to be able to offer this much-needed companionship. Second, every intelligent person should have a reasonable amount of health education, and we, as doctors' wives, should be the leaders in all health programs in our community, and the easiest way of obtaining this knowledge is through Hygeia.

The fact that so many publications are in circulation for the purpose of gain and propagation of certain cults, such as chiropractic and its allied branches,—which are not for the purpose of advancement of scientific medicine and the prevention of disease—and, the American Medical Association realizing this, determined to publish its own periodical for health education and evolved Hygeia, the Health magazine.

The American Medical Association is an organization composed of ninety thousand representative physicians. It is a corporation organized not for profit, but stands for the promotion of the very highest ideals for public benefit. It is supported by the membership fees of the physicians and by the income of the American Medical Journal, which is the official publication of medical science in this ountry.

Public Health Education constitutes one of the many philanthropic activities of the organization; it has, in fact, been an aphorism for many years that medicine is one profession which is constantly educating away its clientele. The periodical Hygeia, in its inception was an experiment, but, as has been said, no method of education has been established as ideal. Physicians have come to realize the difficulty as well as the necessity of teaching and presenting this great work to the lay mind, and of urging the importance of the study of the magazine in the homes first, wherein is the foundation of all teaching.

It is stated that the annual death rate from all causes of diseases throughout the country, excluding those due to war, have decreased to a very marked degree; without quoting fractional figures it has fallen from about 20 in 1900 to about 14 to each one thousand in 1922. which, of course, means in a population of one hundred million, an annual saving of about six hundred thousand lives. Suffice to say, the American

Medical Association in launching this Journal, had as its first chief aim, to reduce the morbidity and mortality of the people to the lowest possible figure. The medical profession cannot, unaided, eradicate infection or prevent the spread of epidemics; it is not within its province, nor is it the desire to force its recommendations on the public. An obligation, at least a moral one, rests on the physician to point out how disease may be prevented; having done this, his professional obligation ends. It remains for the people to ignore, or adopt the recommendations.

Hygeia is a periodical devoted to the prevention of disease and a medical journal for the general reader. The medical profession has no trade secrets, no knowledge, which it wishes to hide, no dogma which it wishes to promulgate, but the profession is one of service and in order to make this service most effectual it must have the cooperation of those to whom the service is rendered.

Working Plan.

1st. County Presidents appoint Hygeia committee.

2nd. A paper, "Why doctors wives should be interested."

3rd. A paper, "Who most need Hygeia?—The laity."

4th. Create a subscription commission.

5th. Extension, to Teachers, City Councils, Churches, Literary Clubs, Stimulate by speakers, Radio, Get Hygeia before the public.

6th. Try to get Doctors to put on office table, regularly.

REPORT OF REGISTRATION
ANNUAL MEETING
WOMAN'S AUXILIARY, KENTUCKY STATE MEDICAL ASSOCIATION—1930

September 15 - 18.

By Agnes Blair, Registrar.

There were representative members of twenty-two counties registered at the annual meeting of the Woman's Auxiliary, Kentucky State Medical Association held in Bowling Green September 15 - 18, 1930, those counties being:

Allen, Ballard, Breckinridge, Calloway, Fulton, Grayson, Hardin, Henry, Jefferson, Kenton, Madison, Marion, Marshall, Mason, McCracken, Muhlenberg, Nelson, Oldham, Perry, Todd, Warren, Whitley.

In addition to these members, totaling 57, there were visitors from out-of-State and in the State numbering 22. Among these were Mrs. J. Newton Hunsberger, President of the Woman's Auxiliary, American Medical Association, of Norristown, Pennsylvania; Mrs. R. N. Herbert, Chairman, National Hygeia Committee of Nashville, Tennessee, and Mrs. Milton Lewis, President, Woman's Auxiliary, Tennessee Medical Association, also of Nashville.

BOOK REVIEWS

PATHOGENIC MICROORGANISMS—A Practical Manual for Students, Physicians and Health Officers. By William Hallock Park, M. D., Professor of Bacteriology and Hygiene, University and Bellevue Hospital Medical College; Director, Bureau of Laboratories, Department of Health, New York City, Anna Wessels Williams, M. D., Assistant Director, Bureau of Laboratories, Department of Health, and Charles Krumwiede, M. D., Assistant Director, Bureau of Laboratories; Associate Professor of Bacteriology and Hygiene,, University and Bellevue Hospital Medical College. Octavo, 819 pages, with 216 engravings and 9 full page plates. Cloth, $6.50, net. New Ninth Edition, enlarged and thoroughly revised. Lea and Febiger, Washington Square, Philadelphia, publishers.

Again the many additions to the science of bacteriology during the past three years has necessitated a very extensive revision of this well-known text. Many parts of the book have been completely rewritten. The sections on Immunity have been amplified. The experience of the authors to date with active Immunization against Diphtheria and Scarlet Fever is given. Not only are the immediate practical results emphasized, but also those observations which bear on the general problems of Immunity.

Work done at the Bureau of Laboratories, Department of Health, New York City, as well as work done co-operatively with other laboratories has given to the authors considerable further knowledge as to the probable value of certain serums and vaccines. These results also have been added to the text in this new edition. The chapters on the Pyogenic Cocci, on the Paratyphoid Bacilli, and on the Pneumococci have been practically rewritten.

Recent additions to knowledge of Scarlet Fever, Measles, Yellow Fever, Undulant Fever, Tularemia, etc., have received due attention. The chapter dealing with Pneumococci has been enlarged to include the new types. The chapter on Complement Fixation has been fully revised and the details regarding the newer Precipitin tests, especially those of Kahn, Kline and Meinicke, are added.

The bibliography has been enlarged and a special effort has been made to give those references which cover all the essential advances during the last few years. The comprehensive summary table has been continued and revised, since many have expressed appreciation of its value. This table gives hte essential characters of, and pathological conditions caused by each of the commoner microorganisms. The teaching experience of the authors has suggested the need of the student for such means of orientation.

Kentucky Medical Journal

Published Monthly By

THE KENTUCKY MEDICAL ASSOCIATION

Incorporated

Entered as second class matter October 22, 1906, at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price $5.00

Edited Under Supervision of the Council

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1931 MEETING LEXINGTON

COUNTY SOCIETY REPORTS

Jefferson: The recent deaths of Dr. Cuthbert Thompson and Dr. John Edwin Hays have inflicted upon their friends, their patients and their medical brethren a loss which will be long and deeply felt.

Dr. Cuthbert Thompson was born near Londonderry, Ireland, in 1865, and was educated at the Medical University of Edinburgh, and had for many years before his death been a prominent and busy practitioner in Louisville.

His love of investigation, his great energy and his painstaking methods were generously expended in the service of his patients, especially those suffering with complicated conditions, difficult of diagnosis. He was particularly interested in neurological diagnosis and had served for many years as neurological consultant at the U. S. Marine Hospital. In former years he had been an instructor in the Medical Department of the University of Louisville.

Dr. John Edwin Hays, a native of Jefferson County, had spent his useful life in the county of his birth. He had paid especial attention to Dermatology and had made many trips to the larger American and European cities to study his chosen speciality. His reputation as a clever dermatologist extended beyond the state of Kentucky and many patients from other states received relief at his hands. He taught Anatomy as well as Dermatology in the Hospital College of Medicine for many years.

His kindness to the sick poor was proverbial. A story is told that, having been paid $2.00 as his fee for a call at 2 o'clock one cold morning, he gravely handed $1.00 back with the remark that a mistake had been made, that $1.00 was his fee.

These two doctors had offices in the same building, just across a hall from each other. Each attended the other during illness; each had accumulated a satisfactory competency through his own labor; each loved books and read continuously. They belonged to the same select local medical sciety, the Medico Chi., and faithfully attended and enjoyed the dinner meetings. They died within three months of each other and are both at rest in Cave Hill Cemetery, Louisville.

OSCAR BLOCH.

Bourbon: Bourbon County Medical Society held its regular monthly meeting on Thursday evening, October 23, 1930, at 7:30 p. m. The meeting was held in the County Courthouse in Paris, Ky.

The following members were present: Dr. W. C. Ussery, president; Drs. C. G. Daugherty, J. A. Orr, H. A. Miller, L. Oberdorfer, William Kenney, G. C. Rankin, J. C. Hart and M. J. Stern.

Visitors: Dr. George Gregory, Versailles, Ky.; P. L. Wattlington, Paris; J. D. Calhoun, Millersburg, Ky.

Dr C. G. Daugherty read a paper on "Acute Abdominal Pain From Outside the Abdominal Viscera."

The discussion was opened by Dr. H. A. Miller, followed by Drs. George Gregory, J. A Orr, M. J. Stern, W C. Ussery and closed by Dr. Daugherty.

Dr. George Gregory read a paper on "Epidemic Cerebro-Spinal Meningitis, Diagnosis and Treatment."

The discussion was opened by Dr. H. A. Miller, followed by Drs. Kenney, J. D. Calhoun, J. A. Orr, M. J. Stern, C. G. Daugherty and W. C Ussery. The discussion was closed by the essayist.

The meeting adjourned.

M. J. STERN,
Secretary.

BOOK REVIEWS

HEMORRHOIDS; THE INJECTION TREATMENT AND PRURITUS ANI—By Lawrence Goldbacher, M. D., Philadelphia. Illustrated with 31 half-tone and line engravings, some in color. F. A. Davis Company, Publishers, Philadelphia. Price $3.50.

The purpose of this book is to present to the medical profession certain practical and readable information regarding hemorrhoids and pruritus ani. The aim has been to make it as brief and simple as possiblee.

The average busy physician has little time or desire to read through many pages of theory and discussion to gain a few facts. I hope that those who read these lines will gain a maximum number of facts from a minimum amount of reading.

Description of the author's instruments and parts of the chapters on hemorrhoids were first published in The Medical World in 1929.

The chapters on pruritus ani first appeared in American Medicine in May, 1929. They have been slightly changed and are offered with the hope that they will stimulate further investigation of this disease. Most of the illustrations are original.

THE TREATMENT OF DIABETES MELLITUS WITH HIGHER CARBOHYDRATE DIETS—By William David Sansum, M. S. M., F. A. C. P., Percival Allen Gray, Ph. D., M. D.; Ruth Bowden, B. S.

The introduction of insulin necessitated a complete revision of the method of treatment of diabetes mellitus not only so far as it involved the application of this marvelous remedy but also because of the consequent changes found desirable in the dietetic management of the disease.

Dr. Sansum at the Potter Metabolic Clinic was one of the leaders in this work. He gradually came to the conclusion that the best results are to be obtained by the use of diets containing relatively large amounts of carbohyrate together with adequate amounts of insulin and then spent two years testing the strength of his theory.

This book is a comprehensive discussion of the chemistry of diabetes mellitus, a presentation of the argument upon which Dr. Sansum's treatment is based, careful and detailed prescription for the proper use of insulin and clear and precise directions for the management of the diet. In addition there are many valuable recipes which all diabetics will appreciate. Harper & Brothers, Publishers, 49 East 33rd St., New York City.

THE BLOOD PICTURE AND ITS CLINICAL SIGNIFICANCE; (Including Tropical Diseases). A Guidebook on the Microscopy of Blood.—By Prof. Dr. Victor Schilling, Physician-in-Chief, the First Medical University Clinic, Charity Hospital, Berlin. Translated and edited by R. B. H. Gradwohl, M. D. Director of the Pasteur Institute of St. Louis and the Gradwohl School of Laboratory Technique, St. Louis; Lieutenant-Commander, Medical Corps (Fleet), U. S. Naval Reserve. 7th and 8th Revised Edition. 385 pages, 6½ x 9½, with 44 illustrations and four color plates. Price, cloth, $10.00. The C. V. Mosby Co., 3523 Pine Bldg., St. Louis.

English speaking physicians owe a debt of gratitude to Dr. Gradwohl for this masterful translation of the remarkable work of Victor Schilling of Berlin on The Blood Picture. In order to get first-hand information and make the work thoroughly intelligible to the physician, Gradwohl spent much time in Schilling's clinic and laboratories in Berlin.

This book gives a blood technic which is new and ideal. Schilling has shown that by his technic much more accurate results can be obtained than by other methods. His trialismus theory of the development of the white cells is the most comprehensive of any as yet formulated. The trailismus theory of development has been worked out with a differential count which gives information of definite diagnostic and prognostic importance. It might be well to state that except in very few cases the method of differential blood counting now in vogue offers very little information to the clinician. Strange as it may seem, this method has been carried year after year in hospitals and laboratories with results that are often meaningless. The Schilling method, however, offers an explanation of conditions which were impossible with the older Ehrlich method.

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